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INSTITUTUL DE PREGĂTIRE DIDACTICĂ
CENTRUL DE CERCETARE ȘI INOVAȚIE ÎN CURRICULUM



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It can be said in the ending that the group or the working team represents the framework of several positive phenomenon, but also to several negative ones. The group can become creative, as it was shown, but it also can block the efficiency, due to some negative phenomena. The problem is to use as working techniques the chances offered by the positive phenomena described above.

It can be mentioned the fact that in a working team can exist groups of debate completely informal, made up by 2-3 persons with preoccupations and intellectual interests and with resembling personalities, who have the initiative of their meeting by themselves, without the need to be lead their debate.

2. Means and creative specific working forms used in groups

2.1 The debate/ the collective discussion

In our research the teachers indicate the debate or the collective discussion as a means to promote the newness, the creativity in the didactical work.

The experience, as well as the researches made on this theme underlined a series of requests and conditions in order to be developed discussions. First of all we should free ourselves from the wrong conception that the discussion, as respiration and walking would be something anyone can do effortless or without knowing the method.

There were created requests according to the discussion group volume or extent, according to its composition (Montmollin, G., 1969) and to the leading way of the discussion process (Mucchielli, R., 1970).

The requirements in organizing and developing a certain debate meeting are:

a. The extent or the group volume represents significance for the collective productivity. As a principle, the increase of the participants' number enlarges the possibilities, the information diversity and the group opinions; it is said that, as a rule, the production or the ideas delivery increases correlatively with the group extent. In front of several new problems, the way of thinking of different persons is in general differently oriented; in order to get to the solution, the problem is fought from different points of view. The chance to obtain a good solution is, as a first approximation, according to the participants' number presupposing that diversity is to be found in the participations quality.

A theme, a problem in the discussion has a limited number of aspects and solutions; thus there is in group a limit of the opinion diversity beyond the increase of the participants' number brings nothing in plus. There is, in other words, a redundancy of the individual contributions according to the increasing members' number, thus from a certain moment the others members brings nothing in plus for the group result. The presence of those from the last it is moreover necessary when it is about making a decision. Figure 1 presents intuitively this relation.

CREATIVE VALANCES OF THE GROUP

Miron IONESCU,
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Auszug

Im obenerwähnten Studium, macht uns der Verfasser über die schöpferischen Wertigkeiten der Gruppe, die gekannt und verwertet sein muss, aufmerksam.

Die psychopädagogische Forschung und die positive ausbildende Erfahrung haben folgende Arbeitsarten als funktionelle Möglichkeit in Hinblick der Förderung der Gruppenschöpfung auferlegt, wie z. B.: brainstorming (augenblickliche Eingebung, Ideenausbruch), der häufigste verwendet, brainwriting, Synektik usw.

Die wesentliche Befangenheit der Schule aus unserem Land vertreten die Vorbereitung des Lehrkörpers in Hinblick der laufenden Kennung und Verwendung der schöpferischen Methoden und Arbeitsformen, sowohl als Gruppe als auch Einzelwesen.

1. Types of groups. The approached theme

In creating, spreading and receiving the new is involved, in a higher and higher degree nowadays, the group. The modern “fortress”, says R. Mucchielli (1970), it is characterized by an effervescence of the team work, symposiums, scientific meetings, conferences etc. The team work affirmed even in the areas where the individual work seems to be a privilege, for example in the scientific research. Certain types of meetings even became a custom, such as: debate or the debate group, the brainstorming meeting, the synectic group, the panel discussion etc. that were the study theme for several more systemic psycho-sociological researches in order to present their optimal way of developing.

The use of these methods is recommended for the school, too: „the modern education shows Cerghit (2006) facilitates the discussion and the group debate, finding in them as active as possible means, for direct students' participation to some activities of mental effervescence (lessons, seminars etc.), p. 119”. If they are to be put in the students' activity, they are even more applicable in the professor work.

Having into consideration the creative potential of the group, it has to be said that it is a theoretical projection, in the direction that the group hypothetical potential becomes a reality in optimal conditions. It also has to be mentioned that, according to the recent researches, it is not considered creativity as an exceptional phenomenon. In a paper about the contemporary approach of the creative thinking, the editors (Gruber, H., Terell, G., Wertheimer, M., 1963)

reveal the fact that the study of creativity has not to be limited to the best, to extraordinary. "There are to be mentioned connections between the big and small creativity, they said and probably between the ordinary creativity and that of a great scientist or a great artist. If we include the "ordinary creativity" in our research, we can face the danger to make our conception meaningless; but if we exclude it we can be trapped in the trap of the "great man theory", that which does not allow the existence of a movement space between common and sublime (p.10). We see creativity as a dimension, more exactly as a continuum with numerous gradations, in which it fits a simple innovation as well as a work of a great talent.

It is thus asked the following questions: in what does it consist the group creative potential.

It can be noticed that the work team can not be approached from the beginning in its all concrete complexity. The scientific study realizes a progressive analyze considering the group in different successive positions, from the simple forms to those more complex. Due to some experiences that minimize the "natural" situations, from the complicated ball of relations it can be depicted one side or another, being elaborated analyze instruments, concepts, models based on which it is considered the complex group found in the nowadays life.

Such an analyze depicts:

- The group as quiet public, as collective witness in front of which the person's work develop;
- The group as an acceptance or a critical public;
- The collective involved in a simultaneously activity, inscribed in a common environment, in which the tasks remain individual; it is the collective made of "cells" or additive jobs reunited in a co-action situation;
- At least the working team integrated, involved in a unique and common task, where the work itself becomes collective (problem salvation, decision making); it is a typical situation for the integrated working team.

It is to be noticed that every step or type keeps, inscribe and goes beyond the preceding ones. In the optimal conditions the collective has the chance to amplify creativity, comparatively with the work of a single person. The arguments in favor of this thesis are numerous:

- a. Within the group there is an information, opinions, activities exchange: a collective can use and value a higher information volume than every of its members: "One can not know everything, within the group the tasks are shared", the competences are completed. In such a framework, everyone gives and receives, being simultaneously information source and beneficiary. It was observed the fact that interaction and the ideas change have a positive effect, a stimulating one; the persons who have, in a group, contacts and frequent information changes have superior performances in comparison with those who have just a few information changes and only with a few colleagues.
- b. The working team offers the chance to have the pretest of the advanced ideas/solutions, a first feed-back for those. Mackworth observes that the original people elaborate an

idea structure (sometimes rigid) and they need an "impact" with a different powerful mental structure in order to produce an unfocusing, to enlarge the perspective. The debate can lead to the situation when certain ideas, till that time only known to be true, to find new arguments. It is made an evaluation of the proposed solutions and there are corrected the possible errors. In the case of several controversy hypothesis and opinions, the debate offers new ways and means to verify them. There are used the collective discussions as frequent as it is felt the need to verify, to find a solution, to face a different point of view (Rosca, 1981).

- c. In the group there can be compensated the qualities and the competences (Rosca, Al.; Rorole, 1985). The current experience shows us that more of them succeed in observing the multiple aspects; it is valorized the associations flux, one comes up with a certain idea, the others complete it and add other ideas, suggesting different perspective. One and the same phenomenon, included in different relationships, reveals different sides. Under these circumstances a participant in the collective activity can valorize the other's way of thinking; one suggests an idea, the other rephrase it and develop it till the finish. In consequence, from interaction and combination it is given birth to a new result. In such a context, the creator person appears as intersection and synthesis place for several ideas elaborated in continuum cooperation (Piaget, J.) or as a beginning point for ideas and solutions which are detailed by the group. The creator synthesis is according to the personal creator effort.
- d. There is a group dynamic. The collective situation becomes an activation source, for energetic mobilization, contagious phenomenon for the passion to search and examine. The group is more than an additive phenomenon, in the sense that its work is not to be reduced to a purely statically effect, of "brains addition"; the result goes beyond in favorable conditions, the simple arithmetical sum of the individual resources. It appears a plus to what is to be find in a calculus starting from the simple addition of the individual work.

Valorizing the mentioned resources, didactical corpus can ensure the correct receiving and the adequate implementation to some psycho-pedagogical novelties. In the same time it can be the source for some new variants.

In unfavorable conditions, conflicting situations, the negative climate etc., the detailed factors from above become as a whole inoperative.

The psycho-social climate of an individual is of great importance, this climate can be defined as a global result of the psych-social relations from the collective and as their experienced satisfaction. In a research made by G. Bratingam on the action of anticipating in a suggestion and idea giving action in a factory, only 25% from those questioned motivates their refusal through the lack of training, the others 75% invoke as motives for they not being present, the negative phenomenon corresponding to the psycho-social climate from that factory, lack of interest, lack of trust lack of confidence, fears etc.

In developing a team discussion can be identify four phases:

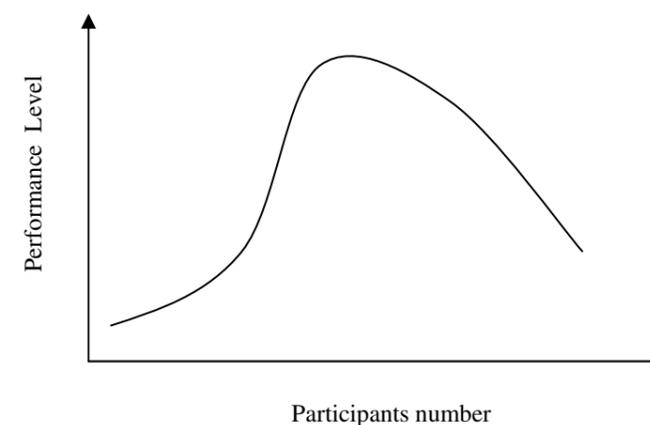
- A warming up phase and a phase for presenting the opinions, a phase when every participant exposes his own point of view upon the discussed theme;
- The team elaboration of a working program;
- The team discussion following the points from the program;
- A final synthesis that must receive the group approval.

The group leader has to face, according to Mucchielli (1970) to several requirements that may appear along, among which we can mention the task to reformulate the expressed opinions, in order to be obtained their clarifying or the participants' approval and to make partial synthesis to reunite several resembling or slightly divergent opinions, as the final synthesis, too. The animation techniques of the discussion it can be mentioned the direct requirement to participate, the asking of some test-questions when certain terms are used in different way, with different meaning, the resuming of the unsolved questions that would be addressed to the entire group, the proceeding "echo- questions" when a question addressed to the leader is sent forward to the sender in order to express his own opinion etc. During the team discussion there might be recorded several difficulties for which the gained experience suggests common sense solutions. For example, the prolonged silence of a certain participant can be over passed through direct appealing in order to collaborate and in extreme cases, by submitting the case to a group analyze. It may be faced the situation when a certain participants keeps on talking inconsistently and the group leader take advantage by the situation in order to make a synthesis of those said up to that moment by that person, thus he can offer in the following the possibility to talk to another participant. If in a group a person tends to impose his own ideas and this fact brings about a stressful atmosphere or a bored one, the leader put this aspect in the light of the team discussion and have as an option, in the following the formula accepted by the group.

As a whole, the discussion leader makes easier the ideas exchange, the group dialog, opening to the team discussion new perspectives that will increase then the participation number. It is useful to be created a debating situation, suggesting a moment of misunderstanding, of difference in the expressed opinions, aspect that induces a minimum of tension in the discussion dynamism. It will be remarked the fact that a certain participant exposed the problem in certain terms, being reformulated on short the exposed position, but the same theme can be interpreted in a different way, from an opposed perspective that is brought, in the following, in the everyone's attention in order to be obtained an approval or an opposed opinion concerning the problem. Putting in contrast different thinking perspectives, it can be created a necessary debating situation, conditions for more alive dialogue, aspect that stresses on the team discussion dynamism.

The theme of the team debate can be various: from ordinary problems, till debates on scientific themes in order to be found better solutions, means for the novelty implementation etc.

Figure 1. Relationship between the participants' number and performance level



On the other hand the approval become more and more difficult to be obtained and the participation in the discussion more reduced once the group volume extended very much. Once the group number becomes larger, the consensual group decreases. There were also made curves of the differentiated participation in the discussion: an optimum of exchanges and of relations it can be obtained in groups of 5 till 12 members. The group made up of 3-4 persons is poor as social reality, and a larger group (as a media) with 12-15 members tends to divide itself in subgroups and to work more slowly. The best equilibrium between the group dynamics, working time and productivity seems to be for the groups with 5-12 members (the numbers has to be taken as orientation aspect). (Let's think how many, for example, would participate, in a spontaneous way in a large room, with a numerous auditorium, in comparison with a group of 12-15 persons).

b. The group composition. In a less extended working team (up to 12-15 persons) it is very important the degree to fit and to be completed by the others' personalities features. In order the group to be working the members have to be able to collaborate with the others, while the self-centered tendencies and the personal need to be the best during the conversation stands above the group activity success.

It looks that the inhomogeneous groups are superior concerning the quality and the originality aspects. The heterogeneity of the members' personality traits can have upon Collins B.E. and Guetzkow, H. (1964) two opposed effects. On one hand the increase of the heterogeneity can bring difficulties in the personal relationships, on the other hand the psychological heterogeneity increases the collective potential, as they are proposed a greater number of alternatives and it is involved a larger criticism base, the chance to eliminate the errors being greater. The heterogeneity is always useful based on a unitary motivation. The diversity of the points of view increases the group flexibility, make to be

easier the un-focusing, the possibility to leave the stereotypes of the participants (Rosca, Al., 1981). When in the group functioning become important the interpersonal relationships, the psychological homogeneity is more indicated.

The discussion way of leading. In order to underline the importance of the way of leading in a certain activity it is often cited an example (apud Zajonc, 1967): a person can bring with her about 63 kilos, two persons, together they can not carry a double weight. In other words with every person that add to the group, the members reduce their contribution, according to the concrete estimations, with about 70% from their capacity. It gets, by extrapolation to the absurd result that the members of a group for about 15 persons would work with an almost null force. But the problem is that the group increases as volume, the coordination of its efforts becomes more and more difficult. Thus, it counts the coordination of the human effort, they way the individual efforts are being put together.

c. The competences are put to work in the mechanism of the collective activities due to a correct way of leading. The hierarchic relations within the group, the management style must act as an amplifier of energies, as a mechanism of control the contributions, making easier for everyone to express himself. In practice, in the collective discussions, the leader counts on his own status and he offers during the meetings his own managerial style and his style to establish relationships with the others. It often happens as the leader to catch the entire attention, shows Mucchielli (1970), to him being addressed all the communications and his opinions to be approved by the majority. There can be identified the tendency to align, to conform, a tendency that stands as an obstacle against the success of the entire collective activity.

The experience also shows, as sources of the members' passivity and conformism, the following: the fear to be ridiculous, the fact that people says "I do not know more than the others", the fear to say something that stand for "an opinion in minority" etc.

Among the conditions for being efficient it can be mentioned, first of all, the investigative attitude, the attitude to cooperate and in the same time the sincerity, objectivity and the free spirit towards the others' opinions and arguments, opinions and arguments that must be considered as detached as possible from the person who formulate them. In discussion it is not recommended to start from a preconceived idea with the determination to defend it no matter what. The openness to the others' ideas does not mean the quitting to your own point of view, only after the speaker was convinced by the force of the concrete arguments (Rosca, Al., 1981). The own opinions and arguments would be considered as revisable positions related to the discussion development. Thus, there must be listen with great attention, with interest and willingness the all opinions and to be made the necessary effort to be understood.

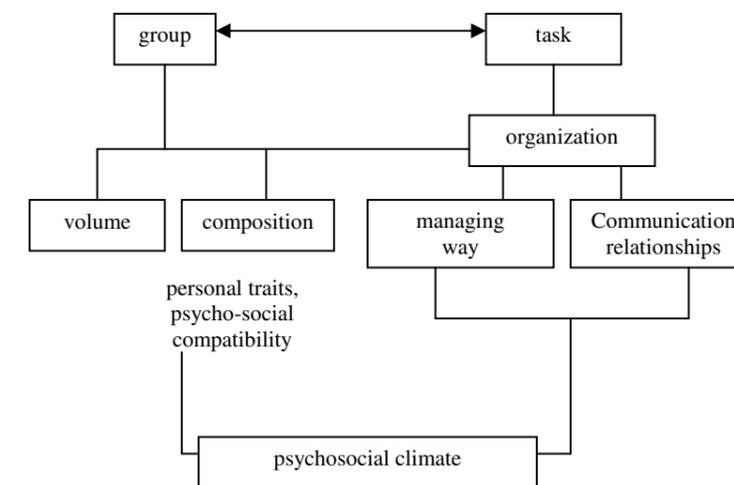
The experience shows that in the discussion team there are persons with special intellectual and professional qualities that due to several temperamental, attitudinal qualities can be an obstacle in front of the debate process, either through too long and inappropriate interventions, either through an easy passing to emotional reaction, either through the

tendency to control or to cover the entire discussion etc. The debate leader will intervene with tact, without offending, without being even noticed in order to solve such kind of situations, underlining from the beginning the necessity to respect the discussion discipline, to avoid the often or inappropriate interruptions, to avoid the tendency to seek a privileged status, an "allergic" situation towards the others' reaction full of criticism etc.

Cartwright D. and Zander A. talk about two tension sources within the group: one positive, reported to the accomplishing of the proposed professionals goals and the other negative, manifested in the plan of the relationships between the members. It can be understood the fact that the group efficiency will be maximum if it productive energy involved in accomplishing professional tasks will tent towards maximum values, while the maintenance energy, consumed by keeping together the group cohesion (the conflicts misunderstandings, unhappiness situations solving etc.) tends to zero. The increase of the maintenance energy is made in the detriment of the productive one, it tending towards lower values.

As a conclusion: the productivity factors of a team work can be presented in an approximate schema, figure 2, a schema that starts from the base interrelation: the group engaged in a task, in order to solve a new problem.

Figure 2. The productivity factors for a team activity



A team discussion will begin with an introductory exposition in order to present the data of the problem that does not have to be longer than 15-20 minutes.

2.3 The Panel discussion

The essence

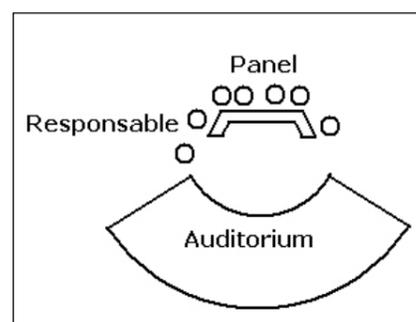
It is mainly a method used in spreading the novelties from the field, establishing a contact between a small group of specialists and a larger public. The term “panel” is borrowed from English and it means “a finite list of names”. Practically in a large room offered for the reunion, a group of 5-7 persons, competent in the theme raised for discussion, take place around a table with a very large semi-circle angle in front of the auditorium. Figure 3 presents this disposal in the conference room. The small group of 5-7 specialists constitutes what is to be named “panel”. The auditorium is organized in front of the panel in such a way that it can hear as well as possible the verbal exchanges from the competent persons that composes the panel (Mucchielli, R., 1970).

Between the panel and the public it is placed the responsible, the meeting moderator who has the role of an intermediary between the auditorium and the panel, he having the task to modulate the debate.

The development of a panel discussion

The conference leader presents the reunion theme, the panel members showing their specific competence and he spreads small cartoons among the auditorium in order to collect questions during the meeting. The public assists, first of all, to the concise presentation of the expositions, then to the discussion that starts between the invited specialists for debating the chosen theme, after that questions are being asked, on the cartoons, these questions are being registered by the reunion organizer. He synthesizes them and then he sends them to the panel who answer to them through a common discussion.

Figure 3. The component of the panel discussion



For the success of the activity the panel will be constituted by prestigious specialists in the related theme, invited, first of all to expose their own points of view and then to carry on discussions with them. After the panel ends the speeches they create sustenance points for various associations, the discussion framework extends engaging all the participants.

2.2 Brainstorming reunion

The essence

The term “brainstorming” in English can be translated in Romanian as the ideas storm “asaltul de idei”. This method was proposed by the psychologist Osborn, A. It is about a temporary team work that develops in a small group (8-12 persons), having as main goal to come up with new ideas through the collective participation. In a current interpretation through brainstorming it is understood the collective be consulted when it is about a difficult or impasse situation, having into mind the expressed opinions and their selection, on the ground of the collective discussion, of the optimal variant or its formulation through a common effort based on the data delivered by the group. The consultancy in an open way, without the criticism dysfunctions or without the immediate evaluation ones, has great chances to find new ideas. In its essence the brainstorming reunion is a variant of the group discussion.

The working principle is to separate the ideas, the ideas production by their critical evaluation. The participant are asked to emit as many alternative ideas as possible, without selection and critical analyze, operation that is supposed to take place later, after awhile, by an authorized jury. Thus, it is about a postponed evaluation in order to free the participants by the dysfunctions of the immediate criticism, Osborn sustained that, in this perspective, that the optimal strategy in solving of a certain problem does not consist in proceeding by successive eliminations, but by finding an as greater number as possible, having into consideration in the end that “quantity generates quality”.

In order to promote an opened attitude towards participation and in order to determine every member of the group to let himself caught in the free association ideas flow, without any external inhibition, it is underlined in the beginning the influence of several thinking clichés and appreciation that imbeds the way to see the facts multilaterally, the common tendency towards conformism, the fear to be ridiculous, the tendency to be careful in formulating opinions that are a minority in the group, the selective filtration phenomenon in perceiving the things, the preoccupation to be the best within the group etc. All these are obstacles for the free development of the ideas flow.

The way of organizing and of developing a brainstorming type of meeting according to R. Mucchielli

After an opening speech in which the leader presents in 10-12 minutes the problem, pointing in the end its essence, it is moved on to the very productive phase, to the brainstorming, with duration of 1 hour, 1 hour and a half. It then follows the phase of modeling the emitted ideas, a phase that takes place afterwards; it takes about 2 hours, related to every case. It is obvious that from those three phases, the second and the third represents the particular organizing aspects.

The productive phase of brainstorming is a creativity act in a group. It is recommended that the group to be composed by 8-12 persons having a precise component for the raised problem and a comparable social status. The difference in the status may negatively influence the members` productivity.

The meeting leader announces the main rules: (a) to be avoided any criticism, positive or negative evaluation including the own ideas. (It is considered that the idea of evaluation or judgment as soon as it is expressed, its author would be more interested in defying it rather than to look after another more adequate); (b) every idea is welcomed, even the fantasist or naïve ones (the presence of such types of ideas would be a sign of self-freedom from inhibition); (c) the more ideas, the bigger are the chances to get a good idea; (d) it is looked after to build on others ideas, their changing or their combination (Rosca, Al. 1981). It, thus, tends to be reversed the regular evaluation system, a system characterized by the immediate and prompt manifestation of the critical spirit, aspect that is only by half successful.

The meeting leader does not enter a competition with the group, his role being the one to make work the discussion process, to facilitate the others participants' involvement. His task is to offer the participants the chance to speak, to rephrase their unclear ideas, to manifest encouraging, stimulating and approval attitudes, avoiding any comments. The reunion leader, is also the one who makes partial synthesis, he opens new ways, he being the one who intervenes from this point of view 3-5 times in a hour.

During the meeting, the participants live a reciprocal influence, start to be trustful in their thinking and imagining force, and perceive with all their consideration the others, being created relationships of reciprocal solidarity.

On the basis of a practical estimation, the idea production on a hour in brainstorming type of reunion is about 150-200 for a group of 10 persons. Under the circumstances of the immediate manifestation of the critical spirit the number of the ideas on an hour is about 20. It is, of course, about completely approximately estimations.

After the productive phase is ended, the meeting leader organizes the complete inventor of the emitted ideas as well as their classifying on categories. The list is presented afterwards to a selection jury. It is appreciated if 10-15% from the amount of the emitted ideas is chosen, the brainstorming reunion being considered to having reached the goal.

During practice there are put into practice modified variants.

Dunnette, M., Campbell, J., Jaastad K., (1963) repeated the experiments on this theme, organizing activities in such a way than they could alternate the team work, after the brainstorming technique with the individual effort in a solitary situation. The authors foresaw in conclusion, a working formula in two phases: the first phase is that of the group activity, it being aimed to make functional the associative flow and to discover multiple sides of the problem through brainstorming, then it follows a working phase in individual conditions aimed to finish the efforts. A prolonged phase in group conditions makes the person to keep on using the same ideas, reducing the diversity of the thoughts and of the associations. Thus, the optimal technique would be a changing between the group activity and the individual one.

In practice there can be identified the tendency to combine the foreseen methods with empirical proceedings. As Rocco, M. (1978) said, referring to the ways we use "spontaneously and empirically, the groups with creative destination get, only in a certain degree to the methods and creative attitudes usage and intuition". It is important to be remained the idea and the principle of the brainstorming.

In a longer research, Rocco, M. (1978, 1985, 2001) studied technical-scientific meetings from factories and research-projection groups from specialized in these problems institutes, with the aim to bring them closer to the validated forms and principles through the experiences from the world (the synectics group and brainstorming).

In the formative phase that took place with 12 teams work (with a members number between 10-15 persons) from 6 different fields it was organized, first of all, the initiation of the specialized personnel concerning the methods and the problems that consider creativity through a program of 12-15 lessons and practical activities weekly organized. Then it passed to a program made of 25-30 lessons and seminar weekly or twice a month organized. The debated themes were: creativity factors, the logical methods in approaching, heuristically strategies, imagining techniques and methods, the creation group and its functioning. After this instruction phase of the selected group it passed to the organization of the groups on semi-optional base. In a group are required 60% specialized persons from the field and 40% from the connected fields, aspect that imposes the partial intervention of the leaders in spreading the participants. In the extensive research phase it was worked with 32 groups with a number of members between 10-21, and in the intensive phase with 12 groups with 10-15 members (N=1555).

It started from the idea that as it describes such different types of creative groups, it can not be taken into consideration an ideal group. It is appreciated to be the best the group that accomplishes in an increasing way the established goals: the elaboration of new ideas and their putting into practice. The author named the proposed working team: "creative adapted group". The working rules were definitive during the collective building process, through the members' consulting and the approval of the correct proposals. The creative working style installs only after 5-6 working meetings, being necessary the systemically presence of the psychologist. Of course, the creative working group adopted in practice is different from the brainstorming reunion characteristics or those of the synectics group. There can be identified, for instance, 6 meetings types: to elaborate the thematic, to mention and hierarchies the problems, to emit ideas, to evaluate and critically select ideas, to elaborate the technologies for a practice appliance of the proposed solutions and to implement the method, the solution into practice. The suspension of the immediate critical evaluation, appreciated initially as being dysfunctional, was needed after 4-5 meetings. The choosing and evaluation operation was made by the team itself, not by an external jury, after an amount of ideas were gathered. The productivity of the creation group was affirmed as a medium after 5 meetings, reaching to a level of 85 proposals, compared with only 26 in the controlling group. Not all the groups are functional after the ending of the psychological assistance; a part of them are satisfied with seldom reunions. The systematically instruction of the group coordinators imposes without ending. It was obtained a mobilization of the creative potential, the interest development from the production and research unity, the creation of a new climate and of the collective spirit.

The two etimological ways mentioned before brought about Bergson to make the distinction between the so-called *dynamic religion* materialized in the affectionate devotion that ties the individual and the divinity and *static religion* in its sense of ritual institutionalized practice.

Indifferent of the accepted sense, religion is generally defined as being an ensemble of beliefs and religions which include both the subjective dimension of religious feelings and of beliefs and the objective dimension, materialized in the existence of certain institutions which involve specific religious solemnities.

For human beings, the existence of religion depends on the issue of the existence of God the traits of whom – Love, Infinity, Omnipotence etc. – do not have any significance if they are approached only from the intellectual point of view, as simple notions, but they must be experienced personally and relate this experience to knowing Him. The Son of God was embodied with the purpose of becoming a Teacher of people, raising the state of the teacher up to the last level of perfection by joining the word with the love which forms and educates.

Religion is the discipline which operates with notions that must raise in the child's soul feelings and beliefs which could determine him to act not only for his own spiritual improvement, but also for the one of the people around him – all these under the sign of love, of freedom and in a continuous relation to God.

The place and the importance of religious education in individual's life have been emphasized by most of the Romanian educators who have shown that most of the things in the world make sense only by the reference of the individual to God: "all the political, national and cultural issues must be enveloped in the eternal value of religion." (I. Rădulescu-Pogoneanu, apud M. Bulacu, 1935, pp. 75).

Religion and morality

Supporting the ontogenetic development by promoting the religious and moral values represented, throughout the time, a concern of all human communities, as a premise of existence, constancy, of a peaceful and prosperous cohabitation in a specific geographical and historical area. Thus, religious and moral education are considered to be a "nucleus of a real personality" (D. Salade, 1998, pp. 70).

The starting point in detecting the essence and the specific of the religious education as a dimension of education is its comparative report to moral education, process which is necessary in the view of avoiding certain confusions or harmful overlapping for the efficient realisation of both categories of steps. **Moral education** represents the dimension of education by which it is pursued the formation and development of character as a relational valuing side of personality, respectively of the consciousness and of moral behavior. The specific of moral education is determined, on the one hand, by the particularities of *moral*, as a social phenomenon which offer it the content and, on the other hand, by the socio-psychic conditions which are involved in realising the specific actions.

The advantage of this working form consists from the fact that promotes initially a competent ideas and information amount, he defines the thinking framework in which it develops free discussions, incites the participants to reflexion on the presented themes and ensures, in an organized way "the warming up phase" in activity. It is an indicated way for the newness spreading and the developing of the implementation conditions in practice.

2.4 Others strategies for stimulating creativity

The FRISCO method is a variant of the brainstorming through which the moderator has a particular role in concordance with his personality traits approaching a problem from more than one point of view.

The check-list is a technique that refers to the elaboration of a questions list that is aimed to stimulate the participants in the brainstorming to value opinions, to organize a confrontation of their points of views and to stimulate the emitting of the new and original ideas.

The brain-writing method resembles with brainstorming an exception being the fact that the original ideas, the answers are delivered in written.

The method Philips 6-6 organizes the participants in groups of 6 persons who choose a moderator. The coordinator offers by writing a problem to everybody from the group. They debate the problem in 6 minutes. In the end the moderator presents the list with the solutions many of them being validated. The synectics/ the Gordon Method is the most claiming. It is based on analogies and ideas association.

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RELIGION AND RELIGIOUS EDUCATION IN ROMANIAN SCHOOL (I)

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Das Buch bearbeitet die Problematik der Religion und der religiösen Erziehung, einige der bedeutenden Herausforderungen der modernen Welt und speziell der Erziehungswissenschaften. Nach der Definierung der Termini *Religion* und *Moral* wird eine Parallele zwischen den zwei Konzepten gezogen. Dazu kommt die Diskussion über Termini wie *moralische Erziehung*, *moralisches Bewusstsein*, *moralisches Handeln*, *moralische Werte* usw. Wenn die Religion die persönliche Beziehung des Menschen zu Gott bedeutet, ist die Moral ein komplex strukturiertes System von ethischen Normen und Werte, die das menschliche Benehmen bezüglich der Mitmenschen, der sozialen Handlungen und bezüglich sich selber regelt. Die Arbeit stellt auch eine Reihe Reformrichtungen für den rumänischen Religionsunterricht, indem sowohl eine Analyse der gegenwärtigen Situation durchgeführt als auch die Perspektiven des Unterrichtsfaches Religion vorgestellt werden.

One of the great challenges for contemporary world and particularly for the field of education is the issue of religion and religious education. The simple pronounciation of these wods can make vibrate the thinst internal spheres of human being and, at the same time, it may be a stimulus for search and dialogue, first of all with one’s own consciousness. Due to this type of dialogue the individual gets to discover or rediscover his own interior, his own feelings.

Religion – individual’s personal relation with God

Education is the human being specific action which has as a goal forming and developing the personality of the ones who are being educated in order to achieve certain well specified finalities, in accordance with the contemporary and long term requirements of society.

Religion represents the free, conscious and personal relation with God, substantiated on love and freedom and expressed through various forms of honouring Him, in particular and in public: uttering or singing prayers, bringing gifts, participating in divine services, prectising virtues.

Opinions regarding the etimology of the term ”religion” are controversial, some of the specialists stating the ideea according to which it comes from the Latin *religare* (to tie), and others choosing the Latin word *religere* (to get again, to gather).

While the lack of conforming to the moral norms leads to direct and immediate implications as formal punishment from the public opinion and marginalization of the respective person in the context of social existence, the violation of the religious norms and principles imply consequences which go beyond the plan of the human concrete existence. We refer to the fact that not obeying the religious prescriptions often generate the censure of the individual by the public opinion and the potential risk of drastic punishment of the individual in the context of a subsequent existence.

Due to the fact that in the case of not obeying the rules religion, unlike moral, implies beside the disapproval of the community and the existence of a judging transcendental objective instance, omnipresent and omnipotent by its nature, its persuasive force is much stronger, in the case of assuming certain firm religious beliefs.

Although not obeying the rules is judged by religion much more drastically than by moral, the rehabilitation as a process of absolving the fault may be realized much easier reported to the divine judgement instance (church has purification ceremonies in this respect) than in front of the public opinion which shows, from this point of view, a great perceptive inertia.

A more attentive analysis of the relation between moral and religion shows that this relation is not a biunivocal one. We refer in this context to the fact that the human subject can assume a moral behavior even if he does not have doubtless religious beliefs. Nevertheless, as obvious is the record that assuming the religious beliefs may bring a significant contribution to the establishment of the moral conscience and conduct.

Having in view the elements mentioned above, we consider that moral and religion must be seen as complementary phenomena, each of them being able to intensify the successful realization of the other. We refer in this context to the fact that in most of the cases the laic and the religious moral are under the sign of an entire axiological convergence and for this reason both steps may offer complementary actional and motivational support to the shaping in a positive sense of the human nature.

Religious education – essence and necessity

Educating, respectively forming and developing harmoniously human personality implies the existence of certain joint instructive-formative actions aimed for the whole development of personality, including the development of the religiousness of the individual. Human being needs a system of religious values which should direct him in during the steps he undertakes for forming his own personality. In their absence, this process is limited, incomplete and unefficient. In other words, one of the dimensions of education – beside the intellectual, moral, aesthetic, civic one etc. and organically integrated with them – is represented by the religious education. It is seen as being the human specific action which the educator undertakes for developing the religiousness of the pupil, on the basis of certain principles and with the help of certain specific, validated methods and means.

If we aim at the realisation of a specific universal, integrating education by our instructive-educative steps, than it is absolutely necessary that it should contain inclusively

The fundamental tasks of the factors that determine the moral development of the individual are: **forming the moral consciousness** and **forming the moral behaviour**, consolidating the ethical beliefs and cultivating the cultural values of the people.

The moral consciousness is the dimension of the consciousness which examines and appreciates the human acts under the aspect of their values by relating it to good or evil; because it generates the favourable attitude towards their own behavior and towards the one of the people around, the moral consciousness is associated with the faculty of expressing judgements of moral value. Moral consciousness includes *cognitive components* (moral notions, moral knowledge, moral representations, moral principles, moral judgements), *affective components* (emotions and moral feelings) and *volitional components* (will traits). Forming the moral feelings depends on the system of pupils' reference to the surrounding world; for example, artistic literature and art, generally, influence positively and multilateral the moral feelings of the children. The more complex the artistic work, the stronger and the more profound the feelings determined by it.

Among the three types of components of the moral consciousness there are tight inter-relations, that is by assimilating and internalising the moral knowledge, moral feelings develop as affective experiences of the moral knowledge and they are at the basis of developing moral beliefs and attitudes (shown towards the fellows, towards oneself, towards events etc.). Objectifying the moral beliefs in moral facts and actions generate **moral behavior**. The moral behavior of an individual represents the ensemble of the reactions, of the inter-humane relations, of the facts and actions carried on by himself, his specific way of behaving and of accomplishing his professional and social duties, appreciated from the point of view of moral.

Moral expresses an organized complex system of ethical norms and values which establish the individual's behavior in relation with his fellows, with the various parts of society and with himself. It represents "a real, collective and individual phenomenon which contains both the norms that establish the human relations and the human types of activities and all the manifestations (subjective and objective) that are realised, in various degrees and modalities, under the sign of these norms or rules, manifestations which are subject to the collective and individual appreciations" (T. Căţineanu, 1982, pp. 11). The object of study and research of moral is the relations of the individual with community and with his fellows (the interpersonal perspective). Thus, moral represents a scientific discipline concerned with the norms of cohabitation and desirable behavior of individuals in society. It contains norms of behavior well substantiated and risen from the wisdom of people and it is conditioned and determined by the individual's existence and conditions of life, reflected in the oral popular creation. The ethical element of the educational activity must be considered as a whole containing the consciousness, behavior and moral beliefs of the personality.

The content of moral includes as a whole the moral ideal, the values, moral norms and rules by which the reports individual-society are being cleared.

The **moral ideal** represents the pattern which contains the quintessence of the moral dimension of the human personality.

The **moral values** reflect certain exigencies corresponding to the conceptions and representations existent at a certain moment about what is moral, by virtue of the moral ideal. The moral values represent the core of the axiologic sphere of a society; they can be generally applicable in all the spheres of the social life (for example honor, kindness, sincerity etc.) or specific to the various aspects of social life (for example patriotism). Some of them are also to be found in all the historical periods, as they are universal, generally acknowledged (for example generosity, love etc.), and others only in certain historical epochs or corresponding to a certain social class (for example, respect towards all the people, the right to live, respect towards women etc.).

Moral norm – as a form of the moral requirements and as an element of human relations has a general, theoretical prescriptive value and it is respected by rules.

Moral rule – contains particular enunciations and has at its basis a moral norm. Infringing the moral norms is not sanctioned by law, but by public opinion. The compulsoriness of the moral norms is given by the "instance" they represent: state, human collectivities, masses of people generally, public opinion, collective desirable habits, traditions, and also by the moral conscience of every person.

Moral education in school refers to the education offer in the moral field analysed in the perspective of permanent education, offer that supports the transformation of the moral knowledge into moral habits and attitudes, into moral conduct. In this respect, an effort of the teacher is necessary in choosing **the methodology of moral education** which should have as a finality the proper and correct information of pupils about the moral knowledge and the practice for its internalisation and conscious application by the pupils. By using **the methods of moral education** the following aspects are aimed, having in view the age and individual particularities of the subjects of education:

- achieving a moral knowledge system ample enough;
- developing moral feelings and beliefs;
- forming moral behaviors and skills;
- forming, showing and promoting a moral conduct.

School, in its quality of constituent of social existence, can not ignore the fact that the good functioning of any society from the past or present implies a double determination: from the point of view of moral norms and rules, no matter how diverse their content should be and from the point of view of the values of religion, no matter which this should be, each society presenting, in various forms, manifestations of the religious life.

The common side of moral and religion is thus represented by the condition they put upon the way of thinking, feeling and reacting of the members of society. Religion and moral propose, actually, cognitive, affective-motivational and behavioral patterns, aiming the progressive shaping of the individual personality in accordance with them.

At the basis of these patterns there are, thus, in both cases, complex sets of values, principles, norms and rules which express in a more or less imperative and categorical way the requires and expectancies the individual has to adapt to.

If the religion and moral convergence point is represented by the ensemble of norms and prescriptions which each of the two phenomena imply for determining the appearance and manifestation of certain attitudes and behaviors, the differences between them are objectified especially at the level of their content, of the way of imposing and accepting the rules and at the one of the consequences that result from the lack of conformity to the reglementations proposed for being respected.

The ethical norms and values are, actually, social conventions which appeared and imposed progressively in the history of mankind as a result of people becoming aware of the necessity of regulating the behavior and conduct of the members of society on the basis of certain principles unanimously accepted.

In other words, moral includes an ensemble of norms and values which are the products of the human experience and reflection, products which, afterwards, being recognized and imposed by the society, reached an objective existence and an imposing potential in relation with the human subject. Summarizing, moral expresses in the language of the individual behavior the historically determined requirements of the society.

Unlike moral, as a product which is specific to human beings, religion proposes for being obeyed a set of prescriptions with normative character which have their origin in the transcendental, divine plan. At the basis of the reglementations specific to the religious phenomenon there is not the man anymore, in his quality of initiator of the norms, but the deity which, through the intermediary of revelation, offers to certain initiated persons the data and general framework of carrying on the human existence.

Although most of the laic moral values and of the religious ones coincide from the point of view of the ideas they are promoting, both of them having as a support elements like Good, Truth, Justice, Love or Responsibility, the differences appear, at the first level, in regards to their nature. If the values of the moral of laic type are the artificial product of the decantation and crystallization in time of the experience of mankind, the values of religion have a transcendental nature, as a result of the divine interference in the plan of the human existence.

Another major difference between moral and religion is represented by the fact that if the moral values and principles are changeable, contextual, relatively flexible and recognized as being dependent on the culture and social-historical conditions where they appeared, the religious values and prescriptions are absolute, without relation to time, unchanging and supposed to be eternal and, at the same time, universally valid.

Having as a starting point different ontological and axiological status, moral and religion have the same aim (shaping the human nature and behavior in accordance with certain values and principles) but they appeal to different authorities in the identification of the undertaken steps: moral is based on the power authorized by society and religion is explicitly or implicitly authorized in its actions by divinity.

Both moral and religion favour and encourage the free adhesion to the values, principles, norms and reglementations which they promote, but the differences between the moral and the religious phenomenon start to appear at the same time with the specification of the consequences of not assuming them.

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elements of the religious education. An education which lacks the religious steps is incomplete, not ample and flexible enough and it lacks the capacity satisfying the expectancies of the ones who are being educated. In this respect, J. Garrido considered that: "If his eternal destiny is important for the individual, it means that education can not ignore this important theme" (J.L.G. Garrido, 1995, pp.183).

Although disputed by some authors because of its identification with indoctrination, religious education asserts itself ever more in the sphere of contemporary educational concerns. The reasons which led to this sudden change of the religious education are multiple and various, starting with promoting on a wide scale the individual's fundamental rights (including the right to faith) and finishing with the states of some of the contemporary men of culture who see in religion and in the religious education the main means of counteracting the present phenomenon of alienation which drives away the individual from his own being and essence. Irrespective of the reasons which led to the request for religious education, school should be able to respond adequately to this request, to the spiritual needs of the individual, who does not relate to reality only by reason and intellect, but also by affectivity and spirituality. It is everybody's right to interact with the scientific, technical, cultural, social, religious etc. most various values, to discern, to accept and internalise the ones which are in accordance with one's own beliefs and with one's own axiological system. It is the right of each participant to education to know the religious values of the human community (nation, ethnical group etc.) where he gets his education. Thus, being aware of this fact, when one gets to the level of intellectual maturity, he will be able to realise analysis, he will materialize his own opinions and beliefs, he will make value judgements.

As regards the question "Religion or religious education?", we hold the idea that, during the process of forming and shaping our own personality, we all need to resort to religion and we also need a minimal initiation in this issue. And how could we be initiated in this direction and form ourselves from a religious point of view but through the intermediary of religious education?

In present, in the Romanian educational system, Religion was introduced again as an object of study within the curriculum "Individual and Society". The route of the religious education in the Romanian educational system and the continuous dynamics of society (with everything it implies) determine an increase of the research, both as regards the explanation and understanding of the notions religion operates with, and in the optimization, innovation, reformation and prospecting the process of education. The pedagogic research in the field of religious education is necessary as this "new" discipline must be ranged from all points of view at the level of the disciplines with "tradition".

Directions of reformation of the Romanian religious education

The results and conclusions of the fundamental and applicative pedagogic research in the field of religious education point out the following directions of reformation of the Romanian religious education:

– **The passing to the religious instruction, to the religious education** – direction that refers to commuting the accent from the paradigm of intellectualist and informative education to the paradigm of formative education, which should lay emphasis on the pupil with his spirituality.

– **Valuing Religion as an authentic educative principle** – Religion must not be perceived and realized as a simple education discipline, but as an authentic educative principle, which should govern the way of conceiving, carrying on and evaluating the whole curriculum process.

– **Introducing in the university curriculum of the Faculties of Theology the packet of disciplines corresponding to the modulus of psycho-pedagogic theoretical and practical preparation.**

– **Diversifying the post-university educational offer** for the graduates of the theological studies – post-university programs, masterate programs, doctorate programs etc.

Analising the current situation and the perspectives of the future

With the set up of the communist regime in our country, education was subordinated to the marxist conception related to substance and to the evolution of society. The reform of education from 1948 supposed the elimination of religion from the objects of study and religious education was to be realized exclusively in the house of worship, once a week, through sermons and prayers (later on the remove of this practice was intended and the priests who were practicing catechism with young people risked their own freedom, being permanently followed by the security guards).

Since 1989, with the reinstatement of the religious freedom, it was possible to take again the religious education through Religion lessons and through the pedagogic research in this field.

After more than 10 years from the reintroduction of religion as an education discipline there are to be noticed certain aspects that emphasize the general way of carrying on the activity in this period:

– **The place of religion as a subject of study.** Introducing again the religion as a subject of study generated debates, the opinions expressed being for and against. Placing it among the compulsory disciplines – for all the levels of education and in all types of school – was a step often difficult, undertaken during many years and finished with the new Law of Education (Law 84/1995), republished.

– **Initial and in-service training of the teachers of Religion.** Among the first problems religion confronted with in the moment of introducing again Religion as a subject of study was the one of the qualified teaching staff. At that moment, the Religion lessons were given to those who had a licence in Theology, most of them priests, whose psycho-pedagogic and methodical preparation reduced itself to the knowledge reached by the course of Catechism.

In the politic world after 1989, within the institutions of Theologic superior education, beside the departments that prepare the future priests, new departments have been introduced for the formation of the Religion teachers, with double specialization, especially Theology-Letters and Theology-History, within which the specialty preparation was doubled by the one from the psycho-pedagogic and methodical field. The insufficient initial preparation and the lack of the didactic experience of the teachers sometimes had undesired effects.

– **Shaping the attitude of the pupils towards Religion as a discipline.** Most of the pupils have a positive attitude towards the discipline Religion and a great availability for the didactic activities proposed by the teachers. Nevertheless, the evaluations regarding the ensemble results of the activity at Religion lessons emphasize certain shortcomings as regards reaching the formative-educative purposes. It can not be ignored, though, the fact that the society we live in, characterized by a crisis of values, sometimes determines at teenagers a low level of cultural aspirations, a significant change as regards the choosing of models, a certain ostentation towards moral and religion, obscenity of the language – all these with multiple implications in their future formation. One of the causes of this reality is also the fact that current education is hiper-cognitived and forming the moral personality often remains a finality aimed at only in the theoretical plan.

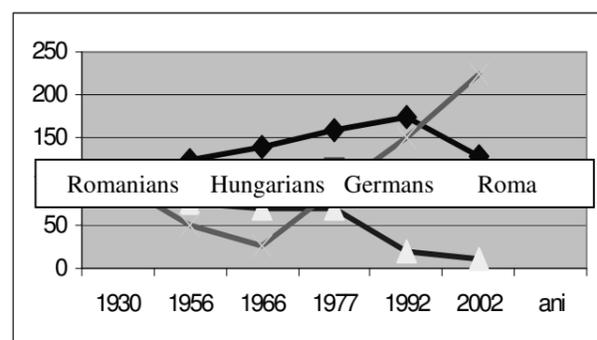
– **Material valuable resources.** Forbidding the Religion teaching made impossible the elaboration and printing certain specialty works, useful for teachers and pupils. It is explainable, thus, the left behind of the pedagogic research in the field of religious education, unlike the one from other educational fields. This situation led to a lateness in elaborating certain absolutely necessary works: the didactics of specialty, handbooks, guides and other support-materials.

– **Evaluation.** Evaluation at the discipline Religion was one of the aspects that generated controvercies, not only in the period after 1989, but also before 1948, because applying the traditional evaluating system generates certain difficulties. The purpose of teaching this education discipline is not only the transmission and assimilation of knowledge, but it also aims especially forming religious-moral attitudes and behaviors and promoting certain specific values the evaluation of which is difficult. The evaluation with qualificatives/marks may have against-formation effects, like eliminating evaluation can not be a viable solution for teaching and learning a subject of study. Also, the effort of the pupils in gathering knowledge and in forming a moral-religious conduct – which constitutes, practically, the assimilation and application of the learned notions – is to be rewarded and valued.

– **Elaborating the official curricular documents.** The curricular reform initiated in the post-revolutionary education led to elaborating new school programs in accordance with the new National Curriculum, followed by the elaboration of the corresponding school handbooks.

– **Pedagogic research.** In the field of religious education, pedagogic research is in a period of obvious progress, stimulated by the introduction of Religion as an object of study, by the necessity of developing the didactics of Religion, by the development of the theological specializations at university level, by the diversification of the university programs, by the necessity of offering programs of continuous formation of the Religion teachers etc.

Graphic 1
Evolution of the main ethnic groups' population between 1930 and 2002
- increasing tendencies compares 100% -



The trend of increasing in Roma population is evident both in rural and urban area. The increasing rate in rural area is from 1.3% (1992) to 1.8% (2002). The increasing rate in urban area is placed from 2.3% to 3.2%, taking in account the above years 1992 and 2002.

The most populated area by Roma Communities in Romanian Counties are as follows: Mures County – 7,0%, Călărași (5,6%), Bihor (5,0%), Dolj (4,3%), Sibiu (4,2%) and Arad (3,9%).

In Bucharest, Roma people are about 1, 4% from total population and in Cluj County is over 2, 8%.

Compared with the official data recording of 1992, in 2002 the people who assumed the Roma ethnicity increased in all the counties, in some of them the increasing rate being of over two thirds (for instance, in Bihor – from 3,4% in 1992 to 5,0%, ; in Dolj – from 2,4% in 1992 to 4,3% etc.)

Regarding the official data recordings numerous points of view there have been expressed, some of them even contradictory. For example, there were voices that estimated the number of Roma at 1.8 million (7,9% of country population) or even at 2.5 millions (*Minority Rights Group International (1997) World Directory of Minorities. London: Minority Rights Group International*).

According to the data presented in 1998 by the Quality of Life Research Institute, the number of Roma people in Romania and the dynamics of Roma population between the years 1930 – 1992 were parameters that were incompletely reflected at the official level, with registration errors. Consequently, there are reserves expressed regarding the official recording data from that period - 1930: 242.656 persons (1,70%); 1956: 104.216 persons (0,60%); 1966: 64.197 persons (0,37%); 1977: 227.398 persons (1,05%) and 1992: 409.723 persons (1,76%).

THE CONTEXT FOR THE STUDY ON ROMA EDUCATION – FROM THEORY TO EMPIRICAL FACTS –

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Summary

The target of our paper is to identify the relevant features for the research and practice approach on Roma education.

First, we assume that in Roma education, non-formal and informal education is more efficient than formal education. As an example, Roma students leave the schools early (in the 4th or 5th form), but they come back to check for the second chance education form in their adult life, motivated by the qualification requirements in the jobs market.

Second, the quality of life and the level of education are two dimensions very strong correlated among Roma people. Here we founded a kind of circular relation. The precarious life conditions are involved on the low level of education through the generations. The low level of education are involved on the precarious life conditions through the generations.

Third, the statistics show an increasing distribution in Roma population and a decreasing distribution in education of Roma people. This polarization – increasing in population versus decreasing in education -reflects deeply the needs of the measures for access to education for disadvantaged groups, focused on Roma people.

I. SOME RELEVANT STATEMENTS ON ROMA EDUCATION

The evidence shows that Roma people, both adults and children, lack self-esteem but very pride in being what they are. Community, inner Roma community is the only forum authorized to declare their success or failure.

It is very evidence too that Romanian Schools are not ready to value Roma culture, and in fact the most commonly held prejudices are that the Roma are uncivilized, and lack education and culture (C. Tileaga, 2005).

Roma children fail to attend kindergarten education. Statistics says that over 50% of the Roma children in our target communities do not attend kindergarten. Hence, when entering school, Roma children are already at a disadvantage because their basic *socializing skills, fine motors skills* needed for developing writing skills, and overall *school readiness* are poor.

Schools fail to adjust their educational provision to the specific needs and learning style of the Roma children. It is not taken in account that Roma children often grow up in an oral rather than a written culture. In some of the schools we target, although children *are* enrolled in

school, and make up the numbers for the teachers to keep their teaching positions, in fact they do not attend school. An example is more than relevant: in one village school closed with Cluj Napoca City are registered 11 pupils, but attending remains day by day at 3 students!

In all the target school, children start dropping out massively in the fifth or sixth grades. For instance, in many schools, out of almost 20 Roma children enrolled in the first grade, only 2 make it to the eighth grade. In other school, out of over 20 Roma students enrolled in the first grade, only 4 make it to the eighth grade. There is a combination of reasons for this, but one set of factors resides in the schools: teachers need to learn how exactly to address the Roma children's learning needs, and to develop a teaching style which builds closely on the children's prior knowledge, on the community's values and life experience.

Finally, it is saying directly: schools are not ready to collaborate with Roma parents – differences in understanding what would be helpful for the children to experience school success prevent the teachers and Roma parents to communicate constructively.

In the Report regarding the Developmental Objectives of the 3rd Millennium (see: www.scers.md/files/Extras_Raport_SCERS_egalitatea_genurilor.pdf), education is defined as a priority in Romania.

To fulfill this priority a complex of measures need to be applied, but two of them are in focus:

- First measure is to increase the rate of graduation in rural area in primary education. The target is that up to 2012 the graduation rate in rural compulsory schools must be higher than 95%.
- Second measure is to increase the school participation and literacy among Roma people.

In fact, the above concrete actions reflect the major difficulties and constrains which our educational system is confronting with. In our opinion, the lack of performance in today Romanian compulsory education is generated mostly by the low quality in rural schools and by the difficulties in provision of education for Roma people.

For sure, a comprehensive picture regarding the inclusion into education of disadvantaged groups, especially of Roma people, is given through the complementary analyses of demographic, social, economic, cultural context which Roma people are part of.

II. POPULATION IN ROMANIA, ROMA POPULATION AND EDUCATION

The Romanian Institute of Statistics (RIS) is offering an important amount of quantitative data concerning the dynamics of demographic, economic, social etc. phenomena during the years of 1930, 1956, 1966, 1977, 1992 and 2002. In all data collection of RIS, from 1930 to 2002, Roma people are registered described according to different statistical indices (<http://www.insse.ro/cms/rw/pages/index>).

According to the last recorded data of the years 1992 and 2002 (see table 1), the total number of population in Romania is in negative progression, per general, from 22.810.035 persons in 1992 to 21.698.181 in 2002 .

Table 1: Population Recording Data from 1992 to 2002

(Source: Romanian Institute of Statistics).

Ethnicity (the ethnic group)	2002		1992		2002 in % compared with 1992
	Persons	%	Persons	%	
TOTAL	21698181	100,0	22810035	100,0	95,8 ^{**)}
Romanians	19409400	89,5	20408542	89,5	95,1
Hungarians	1434377	6,6	1624959	7,1	88,3
Roma (Gypsies)	535250	2,5	401087	1,8	133,4
Germans	60088	0,3	119462	0,5	50,3
Ukrainians	61353	0,3	65764	0,3	93,3
Russians	36397	0,2	38606	0,2	94,3
Turkish	32596	0,2	29832	0,1	109,3
Tartars	24137	0,1	24596	0,1	98,1
Serbians	22518	0,1	29408	0,1	76,6
Slovakians	17199	0,1	19594	0,1	87,8
Bulgarians	8092	*	9851	*	82,1
Croatians	6786	*	4085	*	166,1
Greeks	6513	*	3940	*	165,3
Jewish	5870	*	8955	*	65,5
Czechs	3938	*	5797	*	67,9
Polish	3671	*	4232	*	86,7
Italians	3331	*	1356	*	245,6
Armenians	1780	*	1957	*	91,0
Other ethnics	18950	0,1	7246	*	261,5
Non-declared	5935	*	766	*	774,8

All over this large period, from 1930 to 1992, the main ethnic groups had been the same: Romanians, Hungarians and Roma. For instance, in 2002 the recorded population in Romania is as follow: Romanians 19.409.400 persons; Hungarians 1.434.377 persons and Roma 535.250 persons.

In our opinion, the most relevant statistic data are not the number of Roma persons registered in 1992 and 2002. We must notice a tremendous of controversial debates regarding the Roma registered data.

What is important to see from the above data is the positive progression in Roma people, a very contrastive phenomenon compared with the negative progression of Romanian and Hungarian people in Romania.

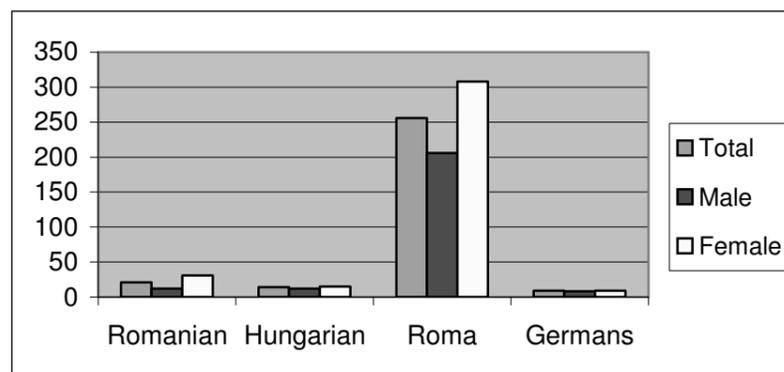
Here we can see that in 2002 the total number of people identified as Roma increased with 1/3 compares to the statistics of 1992. This means that in 2002 the Roma people was placed at 2,5% from general population, compares to 1,8%, the percentage registered in 1992.

According to the above data we can argued that the increasing dynamics of Roma people is an obvious process. More than a spot view to the year of 2002, this evidence of increasing in Roma people started from 1997, as it is revealed in the Graph no.1 / *The Recording of Romania Population According to the Ethnic Groups during 1930 / 2002*.

Table 2: Differences in the poverty rate (calculated by CASPIS)

	1995	2000	2003	% compares to 1995	% compares to 2000
Romanians	24,7	34,7	24,4	-1,3	-29,8
Hungarians	21,9	31,2	14,9	-32,0	-52,3
Roma	73,9	83,0	76,8	4,0	-7,5
Other ethnicity	30,5	37,0	18,6	-39,0	-49,8

**Graphic 5:
Illiterates at 1000 persons of 10 and over
(ethnic groups, male and female ,2002 database)**



A very useful indicator in the analysis of the disadvantaged groups and also in the evaluation of the national educational system is represented by the number of unschooled persons, the illiterates percentage existing in the structure of a community or state. In order to highlight this aspect, we selected from the data offered by the National Institute of Statistics, the data regarding the number of illiterate persons at each 1000 inhabitants registered (year 2002).

The situation described in the official documents is fully consistent with the statistical data previously analyzed. For each 1000 Roma persons, 206 are illiterates, but between women the illiteracy indicative is far higher, respectively of 308 persons at 1000, so slightly over 30%. As obvious, excepting the Turkish ethnics, the great majority of the other ethnical groups in Romania have an illiteracy indicative under 25 at 1000 people, meaning less the 2.5%.

If we only consider these statistics we already can deduce that the between the Roma population and other ethnic groups in Romania there is an obvious discrepancy in the access to education of the former, a difference of over 25% from the very beginning of the primary school level. Consequently, as an effect of accumulation of causes and effects inter-conditioning, the discrepancy of chances increases, reaching alarming rates in higher education level, in our opinion of over 90%.

Some of the above listed data re considered being not as much the real results of the official data recording, as the results of the manipulations made in the statistic data (Pons, 1999).

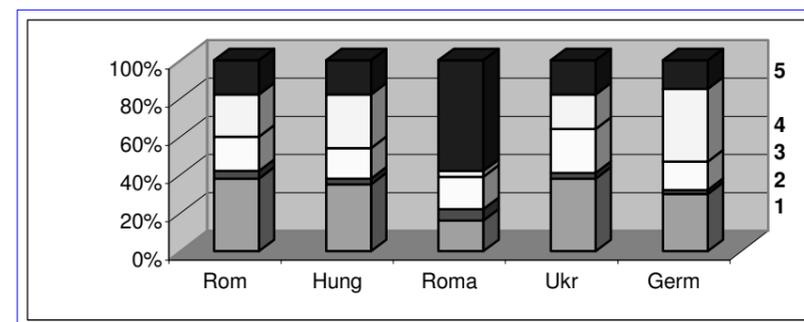
III. THE ECONOMIC STATUS OF ROMA – CORELATIONS WITH EDUCATION

Numerous studies and reports state that from the economic perspective, in the present the Roma community is the most disfavored population in Romania (L. Balanescu, 2002)

According to the data presented by the National Institute of Statistics, in 2002 the Roma population was distributed as follows: inactive persons (excluding pupils and retired) – 55%; occupied persons – less then 20%, unemployed – under 3%, and the rest of about 22% represented by pupils and retired. As it is visible in Graphic 2, the distribution of population according to their economic situation is far more favorable to other ethnic groups: inactive persons (excluding pupils and retired) – between 10% and 15%, occupied persons – 35%-40%, unemployed - under 2%, and the rest of population, representing 43 to 50%, are pupils and retired persons.

On the background of country general discrepancy between the unoccupied and occupied population, Roma population register a very high level of “in-formal unemployment”, to not say “illegal employment”, a high degree of lack of participation at the systematic and organized economic life, and consequently they face a lack of incomes or their fluctuation depending on the seasons or unplanned opportunities.

**Graphic 2:
Structure of the population according to their economic situation**
(Source: National Institute of Statistics)



1. Rate of employed; 2. Rate of unemployed; 3. Students; 4. Retired; 5. Other

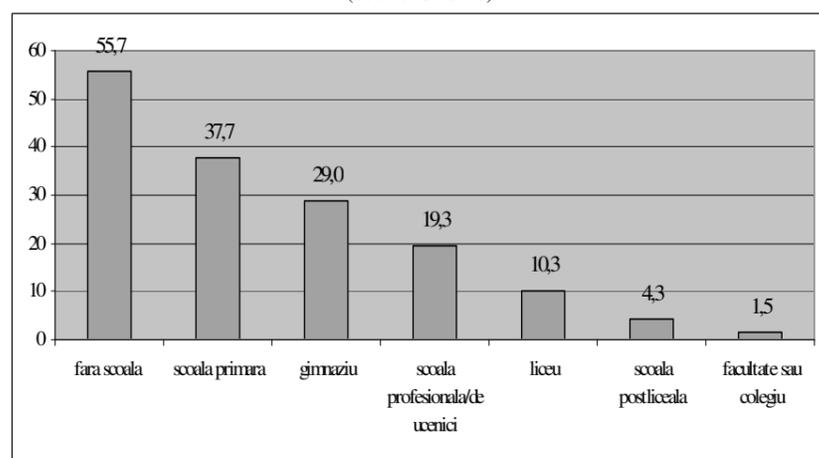
There are several studies strongly argued that the systematic and organizational economic non-participation of the Roma population would be compensated by a revitalization of their traditional occupations. It is mentioned for instance an increase in the number of Roma traditional craftsmen from 3,9% in 1992 to 10,3% in 1998 (Sorin Cace). It is a fact that an interest of the non-governmental organization for the revitalization of traditional occupations

can be identified, but we can see everywhere that the modern contemporary technologies erase to a great extent the expected benefits of the traditional occupations.

Starting with the year of 2001 Romania created the Anti-poverty and Social Inclusion Commission (CASPIIS) that offer the Romanian Government research data and pertinent solutions in the field. In the following certain relevant data regarding the poverty indicators for the period 1995-2001 will be presented, data that are published in CASPIIS studies and reports and correlated with the statistical data provided by National Institute of Statistics.

The histograms presented in the graphic no. 3 represent the poverty risk indicative for Romanian population. The dynamic of the histograms show that the poverty risk is a descending function of the educational level. Thus, the highest risk, that of 55.7, it is registered at the level of persons that have not graduated any educational cycle. The next are the persons that graduated the primary school level, persons for which the determined poverty risk indicative in 37.7. Similarly, the graduation of the secondary school does not insure sufficient life success chances nowadays. But, instead, acquiring a professional occupation through the arts and crafts school, and graduation of high school etc. will offer completely other life opportunities.

Graphic 3:
Dynamics of poverty in relation with the level of education
(Source: CASPIIS)



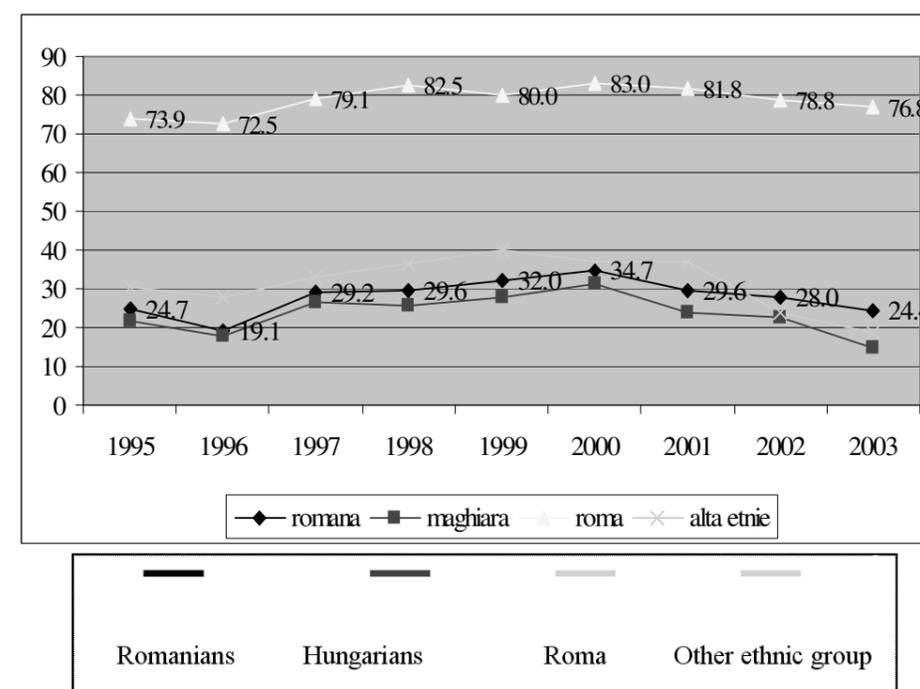
The seven histograms in the above graphic reflects the rate of poverty: no schooling (55,7% poverty); primary school (37,7%); secondary school (29 %); professional and apprentice school (19,3%); high school (10,3%); post-high school (4,3%); faculty and college (1,5%).

In the system of the Romanian ethnic groups, the Roma had in 2002 the lowest educational indicative. According to the above graphic, over 35% of the Roma people are without the primary school and another 35% of the Roma people graduated only the primary school. Only an average of 25% of them reaches the end of the gymnasium, 4% go up to the end of high school, and less than 1% graduates the university studies.

The data offered in graphics 3 are deeply correlated with the data of the National Institute of Statistics concerning the Structure of ten years old and over population according to their ethnicity and the level of educational institution graduated. Here are clearly highlights the direct relation between accentuated poverty of the high poverty risk indicator in the Roma groups and their low educational indicator. In practical terms, over 70% of Roma persons have not over passed the area of the primary school and half of them did not even graduated the primary school cycle.

Graphic 4 shows the dynamics of poverty in Romanian ethnic groups, in the period 1995 – 2003, and table 2 depicts the differences between the poverty indicators in different ethnic groups on the same period. In both the graphic expression and the absolute differences the extremely high poverty indicator of Roma population, of over 70, preserves during the whole reference period.

Graphic 4
Dynamics of poverty according to the ethnicity
(Source: CASPIIS)



Para-school activities, perfecting activities, civically activities extra didactical activities, meetings, camps, excursions, peri-school activities school etc. give support for the fulfill of school study programs.

The informal education goes beyond the other forms of education, as duration, content and implementation methods, but not as value. The influence area of the informal education is still growing, being sustained by great quantity as volume, but heterogenic, very different and un-equal from day to day, and from person to person.

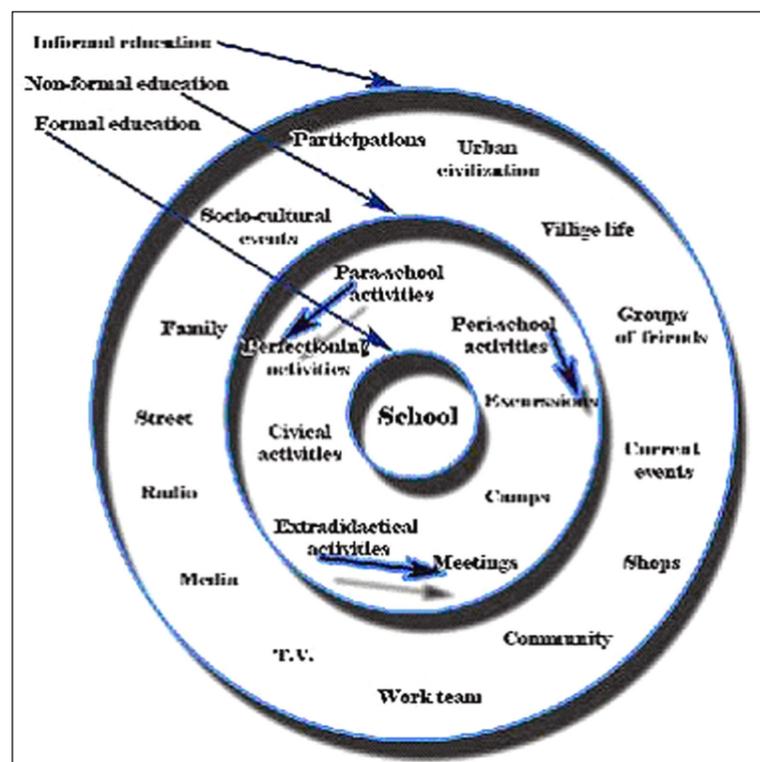


Figure 1: Means of realization of the education forms (adapted from G. Vaideanu, 1988).

V. CONCLUSIONS

The evidences today regarding education for disadvantaged groups, regarding provision of education for Roma children and adults are more optimistic than in the past, even if a number of difficulties still exist.

In the context of the present study, the number of family members of different ethnic groups is of very specific importance. The present statistics are describing the structure of the families according to the family head ethnicity and the number of persons in the family, year 2002 (Source: *National Institute of Statistics*).

It is observable that the Roma families regularly are very large families, with numerous members, especially with more children than families of other ethnic groups.

Thus, for example, according to the statistics data, over 30% of the Roma families have 6 or more than 6 persons, while in Romanian, Hungarian, German families this is the case only for 3 to 4% of them. Over 80% of the Roma families are formed of 3 and over 3 members, while in the case of other ethnic groups, these families represent less than 50% at the most.

We add to these data the fact that in Roma families the children are usually very numerous, and that Roma families usually have two three or more children. According to the statistical data of 2002, nearly 90% of the Roma families had children, while in the case of Romanians, Hungarians, Germans families, this was the situation for only 50 to 70% of them.

Through the statistic data we presented and analyzed in this section of the paper we aim to highlight the amplitude and depth of the Roma population state as a disadvantaged group, as a group that encounters obstacles in their access to education, and face problems in the process of social inclusion and in obtaining the minimal material resources autonomy.

In essence, the situation of Roma as disadvantaged group is systematically reflected in all the statistic parameters - demographical, social, economic, educational - mentioned above. This situation generates the complexity of any ameliorative approach that should consider each of the layers and dimensions of discrepancy. A concrete intervention at each of the discrepancy dimensions would of course represent the ideal model for insuring equal opportunities or chances, but our institutional structures are barely prepared for sequential or one-dimensional approaches.

IV. THE EDUCATION FORMS IN THE ROMA COMMUNITIES

The Roma historical conditions are very special in Romania, as well as in other East European countries. For example, in short time from their arrival on the Romanian geographical territory, the Roma became robes. Same time, the intensity and types of migrations in the Roma ethnics groups were unfavorable factors to the education development too.

Even nowadays in the communities of Roma education is made, greatly as type of *an education for maintenance*, the education type aimed to keep, to conserve the old traditions, in the sense of types of education defined by Mircea Malița (1981). Changes in attitudes, behavior etc is a very hard issue. The new *type of education for future*, prospective education is almost out of Roma preoccupation.

In Roma life, language, history and culture are values given and disseminated almost entirely by oral way, by symbolical and behavioral ways, through the spontaneous contact between old and younger generations. This kind of *shared education* through people interaction stresses a very particular orientation of Roma education on the *informal education*, in the

detriment of the *formal and non-formal types of education*. It is easy to see that even in the “modern culture” in the Roma literature or art etc. here is a large transfer of symbolical and behavioral way of Roma existence. For instance, their ethnic song is *Ghelem, Ghelem (Movement, Movement, the movement and travel)*, the important symbol of the flag is *The Well* (the means of movement and travel) the color is Red (the state of a volcanic spirit).

The existing writings emphasize that the Roma families have specific traditions, deeply inscribed in their nucleic values (Jean-Pierre Liegeois, 1998). The majority of the Roma families provide to their children an education for today, an education for maintenance, an education based on traditions, based on community history, a belonging education. The children are educated according to the Roma desired model, a model reinforced by the social environment located there. The social desirable behavior are kept with scarcity in the family and in the community. The expectancies in interaction are performance and competition, generosity and reciprocal helps, values appropriated in the Roma communities.

The Roma children are very early involved in the community activities, then they are dared to evaluate in a free way, to explore in the surrounding, to assimilate concrete knowledge, values, norms and attitudes that help them to become adults, just as their parents. This is a kind of *romantic apprenticeship education*. The access to school and to the state education is not the main motivation aspect for the majority of the Roma families. Their main motivation factor is the adequate behavior, pragmatic, useful for the current actions.

Practice – a main form of education

The traditional pedagogy, but also the modern pedagogy consecrated the value of the *education through practice* and the effective *learning by doing*. Observing the predilection of the Romany communities for informal education we must say that they are very sensitive to the practical training of their children. Learning by doing became the main type of training, but unfortunately this concrete learning is not associated with the necessary theoretical training. The effective model of learning: reflective practice combined with applied theory is met rarely in the Roma education. Practice approach is relevant for Roma communities education.

In the opinion of the Romany families, the involving of their children from early ages in different practical activities in their houses and outside their houses is the equivalent of the “sufficient or enough education”. The “*Sufficient Education*” is that form of children’s practical training meant to facilitate them for the main socio-economical constraints from their life area.

The multivariate specific of the Romany communities leads constantly to *in-formal* educational formula. Settled or nomad communities adopted and developed, in time, in-formal and non-formal types of education. The school and the *formal education* represented a secondary scope, seldom minor in the Romany communities, being them either settled or nomad.

The non-formal and in-formal education represented for a long period of time, the cinderellas of the romanian educational system, but now these educational alternatives are validated for the training of an important level of disadvantaged groups,

including romany. As a consequence the educational alternatives for the disadvantaged groups produce and will produce diploma, study acts equivalent to those from the formal educational structures, but especially they produce competences specific to some practical jobs.

The non-formal and in-formal education promoted by the Romany communities is accepted a spontaneously realized education. It is obvious that the results of those educative influences, either in terms of knowledge, attitudes, values or behavior, bears the print of the fundamental features of the concrete environment, but also to the individual features of everyone of us. It looks that that area of the in-formal represents the most significant source of learning, at least from the point of view of the permanent education, bringing into discussion the relevance of the personal experience in the process of the adults’ education.

Without doubt, the in-formal education is in direct relation with the paradigm of the permanent education (lifelong learning) and it is a mean to build a “society based on education” (learning society). From these reasons, the in-formal education is now a theme at the level of the national and international educational policy. Unfortunately, it is still very difficult to operationally this type of intervention, and even more, the efficiency evaluation often stands under the question mark. Of course one of the most important aspects here is to analyze all the influences types and their relationships with the previous educational intervention types.

The *advantages of the in-formal education can be seen in the didactical plan*. In the in-formal education context the learning initiative sticks to the individual; the education is voluntary, and the evaluation grilles are different from those from the formal education, the competence in an area or other being the success criterion.

The disadvantages of the in-formal education are inerrant under the circumstances when there is no pedagogical action, an institutionalized and systemically organized one in a structural and functional level. This is why the informal education has a reduced formative function. Only a few of pieces of information become knowledge. Often through the incidental influences the individual has access to the information that may come into contradictory with the goals of the formal and non-formal education. On the other hand the formal education stand in the limits of some spheres of influences that, through their extend, become more and more unpredictable where there are no direct pedagogical objectives and effects, specific to the educational action al formal or non-formal. (Sorin Cristea, 2002).

Education/ formal learning has the shortest time proportion in the person’s life being completed with education /non-formal learning, both developing on the ground of the multiple daily influences, all of the together leading towards the permanent and extended self education and self learning process. Self education includes and it is based on the formal, non-formal and in-formal learning elements. (see George Văideanu, 1988, p. 228).

According to G. Vaideanu opinion, there are a very complementary flow between formal, non-formal and in-formal education, as it is depicted in the figure no. 1 bellow.

Formal, non-formal, informal education, family, streets, radio, media, TV, work team, community, shops, current events, groups of friends, urban civilization, socio-cultural events, village life, all these are educational opportunities for persons.

ARGUMENTATIVE DIDACTIC DIALOGUE

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Zusammenfassung

Thema des Artikels ist das Dialog, aus der Sicht der interaktiven Kommunikation von argumentativen Kenntnisse, erworben durch den erzieherischen Prozess. Wir haben dadurch versucht zu offenbaren das die Argumentation in diesen Fall absolut notwendig ist, weil nur auf diese Weise für ein argumentativen dar sein der Kommunikation Teilnehmer gesorgt wird. Dies kann als eine Interaktion betrachtet werden, zwischen zwei Gesprächspartnern, die rationale Theorien, Betrachtung von gegensätzlichen Thesen analysieren und die Ergebnisse abschätzen. Gleichzeitig wurde gezeigt dass in einem argumentativen Dialog zwei wichtige Faktoren eine beträchtliche Rolle spielen: auf der eine Seite die rationalen Strukturen (Argumentationen, Proben die Thesen verifizieren, Erklärungen), auf der anderen Seite die Affektiven Strukturen (Gefühle, Emotionen, Befindungen). Das Potenzial der Rede, des Vortragens, wird sich beträchtlich steigern durch die Affektive Implikation des Redners.

Introduction

The argumentative didactic dialogue is an interactive way of communicating knowledge assumed as opinions. The arguing is of extreme importance for such an approach as it ensures the base for the participants` sustained opinions in the communication process. It can be seen as an interaction between two speakers in which there are presented several thesis, their sustaining with rational reasons, the analyze of several contradictory thesis and the conclusion evaluation. But in order to convince the other by some ideas truth or by their appropriateness, to unleash him and sustain several attitudes is not an easy thing. The arguing has to be built in such a way as it can offer enough data and a clear justification, in order to get adhesion from those who are being addressed to by the one who sustains a certain aspect.

1. The opinions argumentation

In the educative process, communication is often presents itself as a dialogue or as a collective debate. Between the participants is established a change of opinions argumentatively sustained, regarding the aspects debated. Teaching and learning often train the pupils in such types of interactions, especially when there are approached themes that aim opinion like solutions. Of course that many scientific truths are assumed as unquestionable, beyond doubt and whose elaboration is realized through demonstration. But there are also studied fields in

No lack of projects and finance is the main obstacle in reinforcement of Roma education. But lack of optimal strategy, according to the real needs of Roma individuals and Roma communities. According to all people in the country.

Everyone must recognize that last decade enough (to much) money where spent on the name of Roma education benefit. What are the outcomes? Are Roma pupils and their families more and more motivated by school attendance? Not, compares with the amount of financial input. Unfortunately, pupils, parents and teachers kept in a significance measure the same stereotypes got in former time.

There are numerous evidence that the access to education for Roma children is a complex task, one task which requires a comprehensive approach. Education for Roma children are placed in a field with a large variance of factors, as environmental factors, social, economical, psychological etc.

The main findings of this paper are as follow:

- Roma children fail to attend kindergarten and school education in a higher degree compares with other ethnic groups.
- Schools fail to adjust their educational provision to the specific needs and learning style of the Roma children.
- Schools are not prepared to collaborate with Roma parents. Differences in understanding what would be helpful for the children to experience school success are serious obstacles for the teachers and Roma parents to communicate constructively.
- The situation of Roma as disadvantaged group is systematically reflected in all the statistic parameters: demographical, social, economic, educational. This situation generates the complexity of any ameliorative approach that should consider each of the layers and dimensions of discrepancy. A concrete intervention at each of the discrepancy dimensions would of course represent the ideal model for insuring equal opportunities or chances, but our institutional structures are barely prepared for sequential or one-dimensional approaches.
- Education and economical status of Roma families are very closed correlated. It is easy to see that a low level of economical status lead to a low level of education, but a precarious level of education makes the poverty more profound and durable. Here is a circle causal relation.
- Finally, is to say that improving education for Roma people is possible, but only by using a large variety of pedagogical approach. For Roma children and adults, non-formal and in-formal conditions of education are more productive than formal conditions.

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participant in the argumentative dialogue cares about his own opinion and he tries, as long as it can, to sustain it, rejecting, in the same time, the other`s. There are initiated polemics, confrontations, critic debates that contracts inevitably the argumentation for or against a certain thesis, getting into an end to the success of the one who presents the most powerful reasons.

For the pupil, the argumentative dialogue represents an opportunity to debate, to question, to investigate together with the others. The pupil will learn, in this way, to express his own opinions, to think and to act democratic, to accept the idea diversity, to be understanding and acceptant, to respect the others. Communication with the others, in the dialogue form, will help the pupil not only for developing his argumentation and contra-argumentation capacities, but also to discover values on which basis he will be able to establish a personal behavior direction according to what he feels, thinks, desires, to elaborate a representations, ideas and conceptions system that are to gradually lead him towards a life model.

During the opinions exchange, delivered upon controversial problems, every one of the participants succeed in sustaining not only his point of view, but to convince the collocutor and to bring him on the side of the ideas he proposed, keeping him far from the others, in certain cases. The argumentative dialogue is omnipresent in the area of the socio-humanistic sciences as here is very easy to identify a larger percentage of argumentation, than the one of the demonstration. In teaching and learning these disciplines, the pupils have multiple chances to express their own opinions and to decide between alternatives. A building through demonstration of the solutions given for different approached and analyzed problems is hard, if not impossible to realize, but it needs an elaboration and it inevitably takes the argumentation form.

Argumentation is an approach present almost all the time in the education process. The dialogue between teachers and students involves an ample interrelation of arguments, that integrated in a coherent discursive structure will lead to the accomplishment of the established aim. This is why about argumentation can be said that it represents „an arguments construction, well ordered according to argumentative efficiency criteria and that only together can ensure the collocutor`s conviction or the auditor`s one”, as C. Sălăvăștru (2003, p. 27) mentioned. Only together, corroborated in such a way as to reciprocally complete themselves in sustaining or rejecting the thesis, this ensures the reaching of the whole argumentative structure aim, thus, as great the conviction force can be of one or the other, it remains insignificant in the discursive relation.

3. The argumentation aim

The teacher`s intention when he initiates an argumentative dialogue does not resume to communicate solutions for the debated problems., but also to determine the pupils to share them. This thing is possible through argumentation, one of the means he can use in order to influence the opinion, the attitudes and the behavior of those with whom he communicates. The teacher and the pupils communicates one to the other their thoughts, trying to get convinced by the truth, the utility of an idea or of a certain decision. Sometimes the collocutor does not accept what he is being told and then the expressed

which there is to be found a rich variety of options in which are confronted points of views and different interpretations. The adhesion for a certain option is given by those who find in it the cognitive and emotional explanation for their own aspirations and comprehensive hopes.

Developing an argumentative dialogue related to a certain problem, the teacher and the pupils promotes their own points of views sustaining them with arguments. The everyone`s intention is to express his own idea, as solution for the given problem and to convince the others, with the help of his arguments by his option rightness. None of the presented opinion is shared before it goes through a critical analyze. The one who addressed them had to face the questions and the disagreement, as the way they are being answered can be disapproving. The opinions can generate disapproval, aspect that underlines the fact that the argumentative situation is „an essentially conflicting situation” (Ch. Perelman, L. Olbrechts - Tyteca, 1970). If someone sustains a thesis and the other rejects it bringing arguments against it, then the conflicting character of the argumentation is to be felt. The unanimity is obtained through conciliating the participants` positions, thus, after the critic analyze and after accepting the arguments that sustain the adopted point of view. The conflicting situation implies what C. Sălăvăștru (2003) names as „polemic argumentation”, the one that in its essence expresses the situation when the co-speaker rejects or questions the truth of the thesis, forcing the one who proposes it to bring proves in its favor, proves materialized in statements regarding facts, actions, realities and moods. This will constitute the ground or the reasons of the presented thesis and that sometimes is necessity type or probability type.

The opinions represent subjective solutions for a certain problem that allows the sustenance of the alternatives that are to be commonly analyzed. They will be accepted only if they prove to be grounded through convincing arguments. This is why the one who expresses his point of view and he promotes it in a communicative context has to bring arguments too in order to be able to impose it: „Arguing the subjects proposes for analyze sustenance in accord with his own thesis, but only the collaboration with a partner, the one who has objections, asks questions, brings supplements and explanations can give him the hope to get the adhesion, to get lucrative concords in every stage of the argumentative discourse development” (Gh. Mihai, Șt. Papaghiuc, 1985, p. 71). In the process of the didactic communication there often appear situations when the arguments brought by the teacher or by the pupils for sustain certain ideas are not accepted by the collocutors. The disapproval manifests through criticism and contra-arguments. Unsatisfied with the teacher`s argumentation, an argumentation that does not succeed to convince, the pupils will build a contra-argumentation. Initially questioned or even contradicted, the affirmed point of view tends to become consensual after the analyze activity it goes through as a requirement from the subjects involved in finding a common solution for the problem. The collaboration expression, underlines the above cited authors is the approval given by the communication partner for every proposed argument. The tendency is that a certain opinion-based way to become a „common result” and with this purpose can be valorized the partner`s arguments.

In a didactic dialogue are used interrogations, points of view, interpretation and argumentative perspectives to which the participants have got through a reflective type approach. They are reciprocally communicating their own opinions, as alternative solutions regarding the debated problem, arguing everyone the side he takes trying to get the collocutor on his proposed ideas side, even straying him from others ideas. The dialogue is that communication type in which every participant has access, in any moment, to those two roles: transmitter and receiver (the one who asks and the one who answer). It is highly important for those who are involved in a dialogue to consider themselves as partners in solving certain problems, but partners who see things differently; due to this everyone should be offered the chance to speak his own mind and everyone should be pay attention. The other`s opinions and arguments should be understood and should be taken into account, otherwise the dialogic relationship can not be efficient. Between them it is necessary to be established an inter-personal relationship, an inter-personal relationship for symmetric communication in such a way partners who collaborates can elaborated without constraints, one for the other an alternative to the problem they face. This symmetry consists in the fact that „...those who participate in the dialogue have the same chances and reserves to lead the debate, to propose arguments, to accept or to reject the other`s arguments, to analyze specific values for the affirmations and negations and to establish the objectives` meanings” (Gh. Mihai, 1987, p. 36). There is not about winners and losers as no one can claim he is omniscient. If one of the collocutor considers he is the one who has the truth, and, as a consequence his opinions can not be questioned, then he will consider the other`s opinions as being surely wrong, and thus, not to be taken into account. On the contrary the dialogue requires openness to the other and reciprocal influencing` of the points of view, as collocutors does not communicate something else than opinions. This type of communication eliminate unconditioned adhesion to certain points of views, considered a priori as being unshakable, infallible, definitive.

The dialogue excludes to option *argumentum ad hominem* and promotes the confrontation of the different, even divergent points of views. It is not given up your own opinion for the other, unless this one is convincing through the sustaining arguments force. The dialogue involves the participants subjects in a collective confrontation that involves critic reflection on the partner`s ideas, their deepening, interpretation and correcting. Based on the confrontation new ideas are built. Through rejections and acceptance the partners converge, preferably persuasively, to a final solution, one that represents „a common opinion based mean” assumed and interiorized. It can not be offered the dialogist quality except to the one who really participates responsible in an intentional communication process, trained here to organically exchange ideas collaborating for the problem solving. The dialogist is opinion giver as the dialogue ensures the solving of that problem whose alternatives – solutions represents valuable opinions to be argumentatively sustained; such a dialogue type is functional, it depending on the subjects` capacity to reason the problem data, to select the best solving possibilities, to choose, to weight and to critically option for their arguments, in which pro and against confronts in the agony field till the final synthesis.

2. What does argumentation is?

The argumentative dialogue presents itself as a cognitive construction that is built on the information the speaker subject has related to the debated problem. His aim is to obtain the others` adhesion to the proposed solution. Seen from this type of perspective, mentions P. Oléron (1983), argumentation appears to us as a social phenomenon through which a person influence the other, influence that will spread, eventually, on the others` behaviors. According to D. Roventă-Frumușani, argumentation is „the discursive techniques assembly that allows the building or increasing the collocutors` adhesion to the ideas that are presented to them. Argumentation is a dialogic discourse (the collocutor being a permanent presence that modulates the selection of terms and themes, the discursive genders etc.), inferential (marked by implicit conversational forms, completed by the collocutor through interpretative calculus) and actionable (aiming the epistemic reconfiguration and after that the collocutor`s behavior reconfiguration)” (2005, p. 220). Different from demonstration that reveals necessary truths, in argumentation is implied the problem of the approved truths as an expression of the acceptance. The first is based on a formal structure that determines logically a necessary conclusion; the second presuppose the intervention of the one who argues also the options adequacy.

To argue means to invoke reasons in favor or against an idea, during a discourse that aims to intervene upon the pupils` behavior (cognitively or emotional-emotionally), whose adhesion is gained through the persuasive force of the arguments and not through dogmatic constraints. Besides demonstration, argumentation is an elaborating modality and it implies, like any elaborating form, inference. Any type of argumentation represents a judgments assembly, which sustain an affirmation. Only if it takes the inferences form a discourse can be argumentative, it can be an argumentation.

The dialogue is not to be mistaken with a simple message transmission, feature of the monologue type of discourse, it being a communication form in which there are produced debates and more than one possible solution are sustained through arguments. Everyone of the participants communicate their own alternative solution and tries to critically investigate the partner`s proposal. There takes place an opinion exchange that can allow the identification of a common solution for the debated aspect. Without it we are to face a so called „deaf dialogue”. The involvement in a dialogue implies the option to be open towards the other. The deciding is the confrontation of the points of views assumed by the involved subjects and the decision will be taken in order to be established the approval. But the acceptance regarding a certain opinion can not be reached except through the sustaining arguments force. Through argumentation it is aimed „the solving in a negotiated manner of the opinion conflicts”. It between two persons there is an opinion conflict (an opinion divergence related to the sustenance or the rejection of a thesis), there is no other rational way very easily to be adopted for its solving (turning off) than the administration the proves (facts, arguments, reasons) in favor or against the thesis. Up to the elaboration force of the proves, the opinion conflict will be developed on behalf of one or the other of the participants involved in the dialogic relationship (C. Sălăvăstru, 2003, p. 96). Every

Conclusions

According to a formative perspective, argumentation as a discursive form can be used successfully during the lessons developed in an heuristically manner, when the pupils are determined to offer, in their turn, arguments in favor of the expressed opinions, aspect that does not exclude its importance in the case of the monologue contexts. Everyone can be determined, in different moments of the lesson or in different other circumstances, to sustain his own opinion, to plead for his cause, to justify a behavior, to condemn or to approve a colleague using convincing arguments. It is in the same time the others' target, developed related to the same aspect. Pupils' involvement in an argumentative dialogue has multiple positive consequences in a cognitive and communicative plan. The development of this type of action is harden when the pupils insufficiently and unclearly argue or when they do not take into account the others' convictions, by they certitudes and their in-certitudes, by their feeling and their expectations.

The argumentative competence is, in the end, a condition for the communicative competence, grounding the free expression of the ideas, of the decision making, of the errors prevention and of the intellectual dynamism. It requires the respecting of the logic correctness in the arguments construction, the selection of the most adequate arguments for the sustaining of a certain thesis, the respecting of the auditory features, the auditory to which it is argued for etc. The higher the competence level is, the bigger the argumentative competence is.

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points of views must be argued, thus proved in a certain way. In general, the ways the teacher can influence the pupils are:

- a) Authority – the teacher gives obligatory dispositions or asks to be listen by the pupils grounded on his status and on qualities he expresses in an organized relationships system;
- b) Constraint – the teacher uses the power he has in order to determine a certain behavior from the pupils' part;
- c) Persuasion – the teacher's aims to obtain adhesion to the exposed ideas taking the imagination, emotion and suggestion road belonging to the auditory.

Referring to the last influencing way, the teacher elaborates the message in such a manner he can use the pupils' emotional features, their feelings and emotions. The persuasive success of the sent message highly depends by his ability to exploit the pupils' emotional side. The obtained result is the pupils' conviction to adopt an opinion or to initiate an action suggested by the teacher. But to conviction it can also reach through another process, the argumentation one. Both persuasion and argumentation are characterized through the teacher's conscientious effort to influence the pupils by using the stimulus from the message. What is characteristic to argumentation is the fact that while trying to convince there are stresses the logical premises, without ignoring the emotional ones. In the case of persuasion the situation is on the contrary, the stress is put on the emotional premises, on the feelings and emotions of the one who perceive the message.

In his relations with the pupil, the teacher can action directly, through expressed interdictions in a constraining absolute manner: I forbid you to demonstrate me the X behavior or I forbid you to think in that way about X. But he can proceed through an epistemic de-tour, trying to modify his collocutor's belief, arguing why this type of behavior is not wanted. Through arguing the interdiction, the pupil will get to the conviction that the respective interdiction is correct. Assuming a certain type of behavior is intentional, as the presented arguments conclusions are not convincible as O. Reboul (1991) underlines, but they determine an adhesion that will provoke in the receiver the necessary disposition to start the wanted action. The whole approach is conceived in such a way as to modify a pre-existent situation (the pupil's epistemic dispositions, emotional-attitudinal and action-based).

The teacher builds his own opinions on arguments, with the aim of inoculating trust in the rightness of the given ideas, trying to determine the pupils to accept them, to approve that certain point of view. In the case of the humanistic disciplines, a foundation of the solutions offered to the different approached and debated problems is, in many cases hard to be accomplished, if not even impossible, an the grounding must be done and inevitably this takes the form of the argumentation. Not only has the knowledge about the communicated values ensured their acceptance by the pupils, as, especially the persuasive way of transmitting them. The process has a rational character, as we have, on one hand, the thesis we want to argue, and on the other hand, the arguments (ideas or facts) that come in favor of this thesis and sustains it.

Related to the ideas communicated by the teacher, the pupils often raise two questions: Why? and How? The question Why? Is determined by a piece of information

that does not fit in the knowledge they acquired in the past. The answer is made from a piece of information that once given, it clears away the uncertainty.

For example if a teacher says the following about one of his pupils: X has no character, he expresses an opinion. The one who perceives will wonder in that moment: What determined the teacher to say that thing? What did the X pupil in order to justify that kind of assertion? What concrete proves does exist in that direction? What other persons have the same opinion about him? What are the consequences of such type of finding? In other words, the receiver of the teacher's expressed opinion expect from him to sustain his own opinion by offering them witnesses, proves, facts etc. In the same way will happen as many times as the teacher or even the pupils will express a personal opinion. If that affirmation is made referring to a novel character, during a literature lesson will be inevitably raised resembling interrogations. Any opinion expressed as an answer to a debated problem during a certain lesson is necessary to be accompanied by arguments that are aimed to answer this type of situation.

In order the argumentation to fulfill the scope, the perceiving of the objectives by the pupils must be an active one. How does their activism manifest? Through careful analyze and careful evaluation of every argument before making his approval decision or his rejection one. It is possible that the pupil already has his own representation related to the approached subject, elaborated previously receiving the message sent by the teacher. Under this circumstance he will compare his own point of view with the one expressed and an evaluation changing of the first one will depend on the strength of the arguments belonging to the second one. This moment can generate debates, even conflicts, as the pupil can express his approval, but as well, he can object, he can give contra-arguments, arguments that if they are not discussed and cleared the adhesion are not obtained.

4. Rational and emotional in argumentation

If the demonstration value is intrinsic, argumentation is contextualized, anchored *hic et nunc*. The argumentation is situational; it is always related to a certain situation (G. Vignaux, 1976). The dialogue is realized in a certain social context and involves persons who have their own motivations, interests, cultural level etc. As Ch. Perelman and L. Oldbrechts-Tyteca (1970), through arguments it is aimed the influencing of the auditorium adhesion to the expresses thesis, without completely ignoring, finding them irrelevant, the psychic and social conditions without them argumentation remaining objectless or effect less. The adhesion is obtained through modifying the collocutors' interior dispositions: intellectual convictions, emotional attitudes, motivations for actions.

The argumentative discourse, through which it is aimed a change of the cognitive and behavior estate, is always orientated towards a certain receiver, fact for which the one who promotes it must take into account his personality structure and the situation he finds himself in, as „argumentation is always built for someone, differently being the demonstration it being for anyone” (J.-B. Grize, 1981, p.3). His success is determined by the auditory situation whose adhesion is expected to be obtained. An argument does not produce the same effect for all the communication partners, even if it is correct from logical perspective. Sometimes the logical rightness is not enough for sustaining a thesis. The

acceptance of the argument depends also on the relation with the meaning given by the collocutor to the debated problem. The transmitter makes proposals and the collocutor accepts them, if for him has just a probative force and an emotional echo.

Argumentation is an action for convincing and justification. The one who develops it aims to influence the others convincing them by the appropriateness of his point of view. Behind him is a person whose rationality is „infected” with emotionality. Making believe is reached through logic and argumentative structures, but also through emotional seduction, as „we are sensitive to the emotional force and to the thinking rightness” (Gh. Mihai, Șt. Papaghiuc, 1985, p. 18). The ideas world can be isolated treated from the emotionality one, but it does not exist separately. From this reason, any argumentation effort must orientate not only after problems, but also after persons. Argumentation is a discursive-rational construction whose aim is to convince the collocutor by the truth or the falsity of a certain thesis, by invoking certain facts or reasons that sustain or reject it. But in an argumentative dialogue the rational structures (justifications, proves in favor of the sustained thesis, explanations etc) are combined with the emotional-attitudinal ones (emotions, feelings, moods etc.). By involving the collocutor's emotional-attitudinal dimension the discourse performance can highly increase.

The arguments are constructed according to formal rules, but also particular psychopedagogical requirements. Thus, among the influencing means we can find, besides the constraint of the logic arguments, the belief inoculated on emotion and suggestion way. Every pupil reports the received message to his own referential system built from base concepts resulted after the accumulated knowledge were previously analyzed and kept in the memory, from opinions, beliefs, already elaborated stereotypes, from attitudes and values in which he believes and which he recognize among feelings, emotions and passions. All these can make some pupils to resemble in certain ways, but they are also the ones who differentiate every one from all the others. The differentiation is produced according to the accumulated knowledge, to the intellectual level, to the cultural level and to the lived experienced etc.

The reference system of the one who argues or of the one who evaluates the arguments has logic and emotional components and the piece of information content in a message is appreciated, accepted or rejected according to the interest and the satisfaction degree ensured to the one who receives it (E. Năstășel, I. Ursu, 1980). The one who argues always has to taken into account the reference system of the one who perceive the message, as the contained information in the message is appreciated, accepted or rejected according to the constitutive elements of this system, by the interest and the satisfaction level it ensures to the receiver, even the inter-personal relationships that he has with the transmitter. Thus, the teacher who prepares an argumentation has to have an adequate picture on the auditory he will address, a picture that can not be something else but the result of his experience in the classroom and of the direct contact with the pupils, aspect that will allow a relatively precise evaluation of the values and the truths accepted by those. Being given the fact that the class has a heterogeneous composition, it is necessary a diversification of the used arguments in order to encounter the diversity of everyone's specific features. It is not only about the selection of the arguments types, but about a production that is to be accorded to the rational or emotional components.

“design desktop” environment, generally having the look-and-feel familiar to users of Windows-based graphical applications, in which a variety of software options and “tools” are accessible from toolbars and dialog boxes featuring drop-down menus, and may be accessed by manipulating an on-screen cursor using a computer mouse.

However, these older software packages for developing virtual instrumentation systems, using graphical programming means, provide the user with tools for designing so-called “data flow” diagrams. The user of these software packages is thus required both to place icons representing desired system components onto a design desktop and then to effect “wiring” connections between components. In order to design a data flow diagram that corresponds to a workable measurement system application, the user is required to have comparably deep knowledge and understanding of the specific data paths and element combinations that will be required to attain the user’s objective, which is a “solution” to the user’s measurement requirements. User designed systems developed using this type of software are also prone to errors, because they generally allow the user to unwittingly wire together components that are functionally incompatible.

Virtual Instrumentation Software

Cabri Geometry II Plus software allows dynamically exploring Euclidean, transformational & coordinate geometry. The users can draw vectors and conics (incl. VccSSe ellipses and hyperbolas), see equations of basic geometric objects (e.g. lines, circles, ellipses) and the coordinates of points.

The users can also freely manipulate the figure, test its construction, issue conjectures, measure, calculate, delete, modify or undo what has been done. Invariant properties are revealed through translation, dilation and rotation on screen.

Cabri handles all the constructions students have traditionally done with ruler, pencil, compass and protractor, and goes much further. Lines, circles, points, triangles, vectors, conics, etc are easily created, manipulated and measured with toolbars and drop-down menus. Students can see patterns, make conjectures, draw their own conclusions, and create alternative examples of the construction, integrate images into word processing documents or distribute them via the internet in CabriJava format.

Crocodile Clips software is developed specifically for education focused on what teachers and students really need from the packages they use. These powerful simulation packages allow students and teachers to recreate experiments, model mathematical theories or simulate real life quickly and easily. They are virtual laboratories which are safe and accurate. Crocodile Clips software: - **Crocodile Physics** is a powerful but easy-to-use simulator that allows modelling a range of models in electricity, motion and forces, optics and waves. - **Crocodile Chemistry** is a simulated chemistry laboratory where there can be model experiments and reactions safely and easily. - **Crocodile Technology 3D** software combines electronic design, PIC programming, 3D mechanisms and 3D PCB (Printed Circuit Board) simulation. - **Crocodile ICT** is a powerful tool for teaching control and programming. It use

RESULTS OF THE ANALYSIS OF STUDENTS’ OPINIONS REGARDING THE EDUCATIONAL USE OF VIRTUAL INSTRUMENTATION. THE CASE OF VCCSSE – VIRTUAL COMMUNITY COLLABORATING SPACE FOR SCIENCE EDUCATION PROJECT

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Abstract

The present paper is focused on describing one of the aspects of a complex teaching experience occasioned by the educational implementation of the products created by teachers of sciences who participated in a course regarding the school applications of Virtual Instrumentation experiments. Based on a course developed under the European Socrates-Erasmus project VccSSe – Virtual Community Collaborating Space For Science Education, the training programme through which teachers were taught to use specific software applications for creating the VI experiments, ended with an important number of such applications. In the present paper we discuss the implementation of these products impact at the level of the 341 students involved in the experiment.

As *Virtual Instrumentation* represents a real revolution in the field of instrumentation and its power in creating *simulation-based learning environments* is well-known, this project is addressed – one the one hand - to in-service teachers training on using the virtual instruments in the teaching process of different sciences (mathematics, physics, chemistry, biology) and – on the other hand - to the pupils – as end-users – who will benefit by the implementation of the virtual instruments in the classrooms. The project VccSSe is *aimed to adapt, develop, test, implement and disseminate training modules, teaching methodologies and pedagogical strategies* based on the using of the *Virtual Instruments*, with the view of their implementation in the classroom, through *Information and Communication Technology* tools. In this sense, the partnership assumes to build various pedagogical approaches in a virtual space able to offer efficient ways of using specific tools for logical understanding of the fundamental concepts in sciences.

The overall aim of the project has the following *specific objectives*:

- 1) Offering to the in-service teachers a particular technology (based on *Virtual Instruments*) that will enhance learning in specific laboratories;

- 2) Applying the developed teaching methodologies and pedagogical strategies in the teaching process and share them in an easy-accessed learning environment (the *Virtual Cooperative Space*);
- 3) Improving the research base of knowledge and the implementation to other training areas;
- 4) Developing the European cooperation and awareness;
- 5) Disseminating all the results at the local, national and European level.

The *initial target groups* are formed by approximately 180 *in-service teachers* from primary and secondary schools involved in Sciences teaching areas in the partner countries. The teachers will collaborate in order to make curricular and pedagogical adaptation of the teaching models, virtual tools and on-line resources, to support collaborative and experimental learning in Science Education. The other target groups are consisted of: 9 local co-ordinators (as tutors also), 9 tutors, 9 researchers, 18 local educational authorities and over 3500 pupils. In addition, teachers / professors / trainers from Europe will benefit from the project outputs in the frame of the *on-line simulating laboratories* (in the *Evaluation & Dissemination Stage* of the Project).

Apart from Babeş-Bolyai University Of Cluj-Napoca, Faculty of Psychology and Sciences of Education, other university and teacher training centers were involved in the above mentioned project: Valahia University of Târgoviște, România; Teacher Training and Educational Innovation Centre Valladolid II, Spain; Teachers Training Centre of Gijón, Spain; Teachers Training Centre of Zaragoza I, Spain; Warsaw University of Technology, Poland; Regional In-Service Teacher Training Centre “WOM” from Bielsko-Biała, Poland; University of Joensuu, Finland; University of Patras, Greece.

The concept of **Virtual Instrumentation**, introduced about twenty years ago by National Instruments with the introduction of *LabVIEW*, is based on the idea **to allow the instrumentation user to build an instrument for his needs rather than trying to adapt his needs to existing instruments**.

A virtual instrument (VI) consists of an industry-standard computer or workstation equipped with powerful application software, cost-effective hardware such as plug-in boards, and driver software, which together perform the functions of traditional instruments. Virtual instruments represent a fundamental shift from traditional hardware-centred instrumentation systems to software-centred systems that exploit the computing power, productivity, display, and connectivity capabilities of popular desktop computers and workstations. The computer provides the user interface and data processing, with the basic measurements carried out by plug-in boards or stand-alone instruments on some form of data bus. The **most widely used computing platform** is the IBM-compatible PC, although there are development communities for other platforms such as the Macintosh, VME-based and Unix-based systems.

Software is the most important component of a virtual instrument. With the right software tool, engineers, scientists and teachers can efficiently create their own applications, by

designing and integrating the routines that a particular process requires. They can also create an appropriate user interface that best suits the purpose of the application and those who will interact with it. They can define how and when the application acquires data from the device, how it processes, manipulates and stores the data, and how the results are presented to the user.

While few believe a virtual instrument can replace a traditional one, all agree the virtual concept will become more pervasive. In systems where measurements are highly automated, virtual instruments dominate. Few buy traditional instruments for automated test-and-control systems today, preferring instead to use devices that are highly programmable and highly modular.

VI augments rather than replaces existing process control systems. Programmable automation controllers are often indistinguishable from virtual instrumentation, observes NI's Almgren, noting that both are programmable devices, with VI focusing on the measurement side and PACs (Programmable Automation Controllers) on the control side.

The Internet has ushered in a new age of data sharing, and has spurred new networking and remote computing capabilities of virtual instrumentation that was simply not possible with their stand-alone propriety counterparts. Virtual instrumentation takes advantage of the Internet, so it can easily published data to the web direct from the measurement control device, and read data on a handheld personal digital assistant, or even on a cellular phone.

Until the 1990's, the programming of virtual instrumentation systems was a task strictly for professional programmers, who wrote the required software programs using “textual” programming languages such as BASIC, C ++, or PASCAL. In addition to the factors previously mentioned, the great variety in possible applications also called for professional expertise, in that one customer's measurement application was rarely suitable for another customer. For example, one customer may have needed only to collect a single value, outside temperature, once an hour, and to have all collected values stored in a file. The next customer possibly required that several related process temperatures, in a rubber-curing process, be monitored continuously, and that a shut-off valve be activated in the event that the relative temperature between two process steps should vary by more than seven degrees for a time period of three seconds or more, in any 15 minute period, and to store only data concerning such episodes.

The development of instrumentation systems software by professionals using textual programming languages such as C++ is very time consuming and tedious, and it typically results in the production of a program consisting of many pages of source code, written in a computer language that is virtually unreadable by non-programmers, and which thus cannot be modified by the typical users of such programs.

In the last ten years, there have appeared several commercial software products for the development of virtual instrumentation systems using purely graphical programming methods. Each of these products provides users, typically including users who are not skilled software programmers, with a “graphical development environment” within which to design a custom virtual instrumentation system. Typically, the user is presented with a

specialty factor. Yet, we will make specific comments in case they are relevant in particular for one of the specialties.

At first question: „1. What did you like most about the lesson where virtual experiments were used?” students answers highlighted the fact that the lesson was interactive, and that they could understand easier and quicker the physical law or phenomenon explained by the teacher. They appreciated the fact that the physical phenomenon could be thus split into operations and the processes could be observed in motion, a fact that facilitated its understanding. We have got frequent answers as the followings: „I liked the fact that I could easily see the process of image being formed in the eye” (14 years old student at lesson „lenses”). An aspect not to be neglected in students answers was the fact that they appreciated the possibility to cooperate in these lessons.

The most important feature which students highlighted was the interactivity of the products, namely the fact that the virtual experiments could be manipulated by the students, through the parameters and variables of the experiments modification. This fact stresses the main role of the virtual instrumentation in teaching science lessons; it replaces the real instrumentation which in Romanian schools is sometimes absent or obsolete, and, on the other hand, it permits developing experiments without exposing students to risks.

Second question „2. What didn't you like about the lesson where virtual experiments were used?” received very positive answers from the students, as they declared that they generally liked the lessons which included VI. Yet, there were also specific answers that highlighted certain risks or shortcomings of these lessons. The main concern was related to the fact that the two software applications do not include a Romanian language interface. While students normally do not access the software application in itself but only the final product developed by the teacher, a certain number of students were interested in using the software themselves for creating their own applications.

Another category of problems raised by the students was the one related to the fact that VI draws sometime too much of the teacher's attention and energy resources, diminishing his distributive attention and vigilance, a situation which offers some students the occasion to escape the learning situation. One student was saying: „I did not like the fact that some colleagues were not paying attention to the lesson” (13 years old student, Physics). This is a possible risk of using complicated educational tools and resources while not being very familiar with the practicalities of ICT resources manipulation, and, in our view, signals for the necessity of permanent ICT support needed in the school.

Third question: „3. Did the use of the virtual experiments help you understand the science concepts?” was a close one, students being asked to choose one of the following answer options: „Yes”, „To some extent”, „No”. This item focused on the measure with which students perceive the VI as a factor that supports the understanding of scientific concepts. 78% of students gave a positive answer, 16% answered that VI contributes to some extent to the concept clarification while only 6% of the respondents declared their lack of trust in the formative value of VI (see fig. 3).

a simple flowchart interface to write programs which control either human characters or on-screen animations, making complex programming concepts easily accessible to all. - **Crocodile Mathematics** is user-friendly mathematical modelling software for secondary school geometry and numeracy. Mathematical modelling is made simple - link shapes, numbers, equations and graphs to create models.

Modern pedagogical approaches, like the **Blended Learning** approach (Bleimann, 2004), combine face-to-face education, process work with e-learning and mobile-learning. The mobile-learning technologies “bring” the knowledge physically close to the process where it is applied. In the other direction, from industry to education, introducing industry-standard tools into education makes the transition from university to industry smoother. (11) Nesimi Ertugrul (10) stated the following criteria that may be contemplated for selecting application software to build a virtual instrumentation that may be used in education:

- Modularity, allows to test individual modules easily and to develop applications quickly.
- Multi-platform portability enables designers to work on separate parts and compile them on one platform.
- Compatibility with existing code, allows incorporating with previous applications, and also with the previous versions of the software.
- Compatibility with hardware, to be able to gather data from different interface hardware.
- Extendable libraries, to let the designer build libraries of low-level routines to link them in higher level systems.
- Advanced debugging features, to optimise product design and to determine a defect in the code.
- Executables, to avoid alteration, to hide the code or to create stand alone applications.
- Add-on packages, which indicate the market acceptance of the product and speed the development.
- Performance, to ensure that the end product meets the required performance.
- Intuitive Graphical User Interface (GUI), enables a user to look at it and see what needs to be done
- Multimedia capabilities, for future developments.

Results of course development and the classroom implementation and its results in Cluj-Napoca

The pilot course started in Cluj-Napoca with 29 teachers in preuniversity lower and upper secondary level with the following specialties: 18 teachers of Physics, 4 teachers of Chemistry and 7 teachers of Mathematics.

The course content was the one developed by the project team and it was delivered by using the Moodle electronic platform. Inside the *Moodle* platform, the participants can find the Structure of the Training Modules: 3 Seminars and 3 Laboratories, as follows:

- Seminar 1: Virtual Instrumentation Overview
- Seminar 2: The Basics and Examples of Virtual Instrumentation in Education
- Seminar 3: Teaching Methodologies and Pedagogical Strategies Based on the Using of Virtual Instrumentation
- Laboratory 1: Getting Familiar with VI Tools
- Laboratory 2: Basic Teaching and Learning Activities with VI Tools
- Laboratory 3: Designing Learning Activities which Include VI Applications

All these modules were designed to familiarize the participants with the technology based on Virtual Instruments and to develop teaching methodologies and pedagogical strategies which integrate virtual experiments.

Beside those seminars and laboratories, 3 Training Materials were developed:

- Teaching and Learning with *Cabri Geometry*
- Teaching and Learning with *LabVIEW*
- Teaching and Learning with *Crocodile Clips*

In Cluj-Napoca we only explored and used the modules related with Cabri Geometry and Crocodile Clips Physics and Chemistry.

The Training Materials familiarise the participants with the basic steps on using specific software packages, special designed for creating virtual experiments for Science areas: Mathematics, Physics, Chemistry and other related ones.

In addition, in Seminar 3, a Lesson Template is presented for helping the participants to create the Final Products. It is compulsory for you to use at least one software (and produce one or more virtual experiments) in your product. In this sense, the tutors will make the necessary actions for recording all your products which will be organized in a common database and published on the *VccSse Project web-page*.

At Babeş-Bolyai University of Cluj-Napoca 19 teachers finalised the course and obtained 11 didactic projects and virtual instrumentation (VI) products in Physics, 6 projects in Mathematics and 2 projects in chemistry. Figure 1 shows the distribution of the products according with the specialty they illustrate.

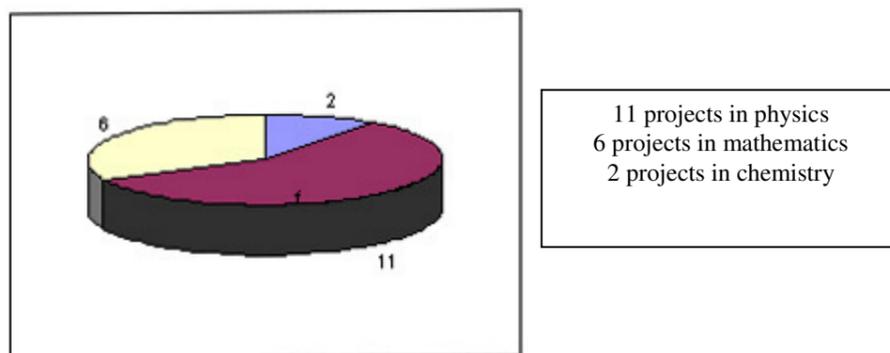


Fig. 1. Distribution of ourse products according with teachets' specialty

As at the begining of the course we inroled 29 teachers expecting that about 20 will end the course by fulfilling the requirments of it, and given the 19 teachers that actually finished the course, we may afirm that the course was successfull in a proportion of 80%. We expected a small rate of dropouts as the content of the course was not a basic IC one, but a highly specialised one.

As far as the level of education is concerned, the distribution of projects was the following: in Physics: 4 products for lower secondary and 7 products are destined to upper secondary students; in mathematics: 2 products for lower secondary and 4 for upper secondary level; in chemistry: two products for uppers secondary (see fig. 2.).

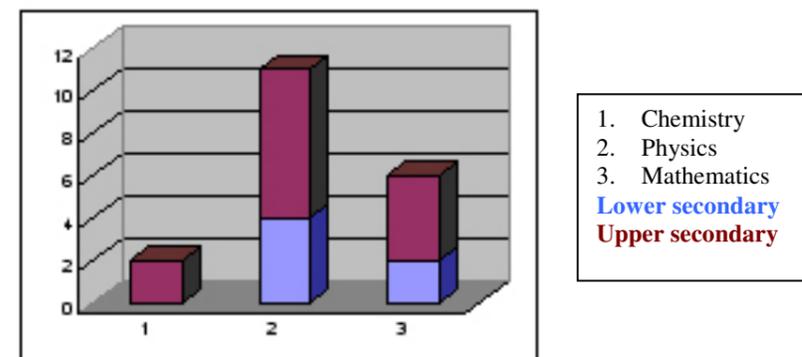


Fig. 2. Distribution of course product according to the specialties and educational level.

Each teacher was required that after creating the educational project script and the VI application with one of the software tools explored in the project (Crocodile Clips for Physics and Chemistry and Cabri Geometry, in Mathematics) to implement the rproducts into the classroom at their regular schools. The oppinions of students that participated to the lessons which included the use of VI instrumentations were gathered with the help of a open questions questionnaire (see the annex).

From the total number of 19 teachers a number of 16 teachers implemented the products in the educational settings, as follows: 11 teachers of Physics and 5 teachers of Mathematics. In the discussion that follows we will analyse students' answers to the questionnaire administred.

In the following we will consider the students' oppinions expressed in the questionnaire which they filled in after the lessons that used VI applications, from a qualitative and quantitative perspective. A number of 341 filled in questionnaires were analysed, as follows: 232 questionnaires for Physics lessons and 109 questionnaires for Mathematic lessons, lower and uper secondary level. As the questionnaire had nonspecific questions as related with the software used, we will analyse the answers disregarding the

Annex 1

Pupil Feedback Questionnaire

Recently you have had a lesson where virtual experiments were used. We would like to know what you think about them. Therefore, please, answer the following questions.

School:

Age:

Subject of the lesson where virtual experiments were used:

1. What did you like most about the lesson where virtual experiments were used?

.....

2. What didn't you like about the lesson where virtual experiments were used?

.....

3. Did the use of the virtual experiments help you understand the science concepts?

- Yes
- To some extent
- No

4. Would you like the teacher to use virtual experiments within the science lessons again?

- Yes, regularly
- Yes, occasionally
- No

5. Please, add any other comments you have about using virtual experiments within the science lessons

.....

Thank you for your cooperation!

We consider the the positive attitude of most of the students a highly important indicator of the possible positive future of the VI used as an alternativ of the classical experiments.

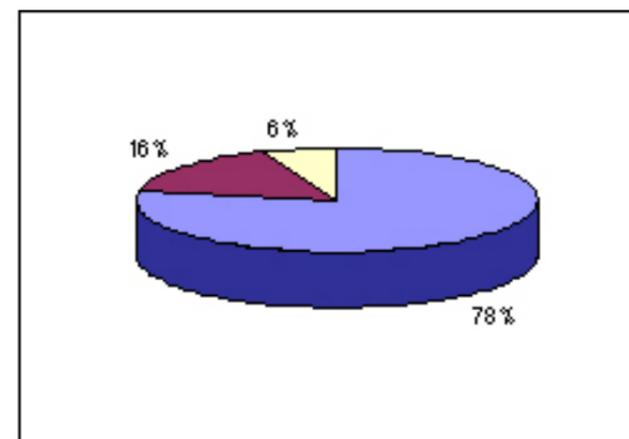


Fig. 3. Distribution of answers at item no. 3

Did the use of the virtual experiments help you understand the science concepts?

78% Yes
 16% To some extent
 6%No

The forth question was focused on investigating students' willingness to use the VI applications in the future lessons: 4. Would you like the teacher to use virtual experiments within the science lessons again?

Only 2% of students answered that they didn't like that VI experiments based lessons to happen again (see fig. 4). The possible explanation for students options may stay in the fact that VI experiments lessons are taking extra time for designing and implementing, and the curriculum pressure in Physics and Mathematics for learning a great deal of ready made knowledge in lower and upper secondary schoolsdemad teachers and students the most economic way of using the teaching and learning time. On the other hand, the teaching models to which students are accustomed make them prefer being science „consumists” instead of science „discoverers”.

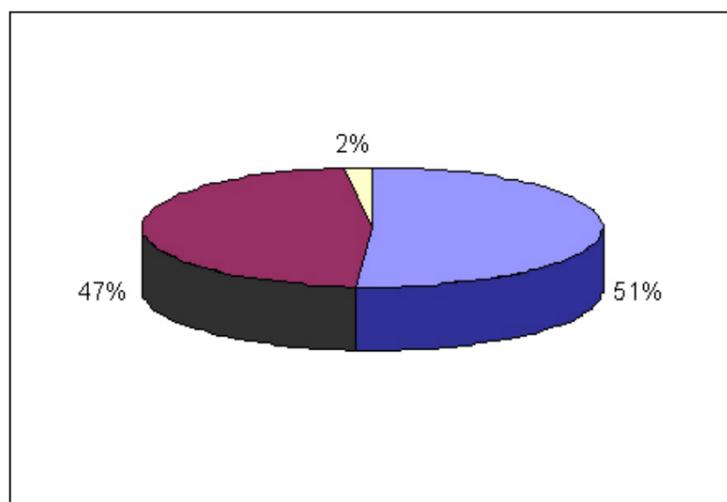


Fig. 4. Distribution of answers in item 4 of the questionnaire.

Would you like the teacher to use virtual experiments within the science lessons again?	
51%	Yes, regularly
47%	Yes, occasionally
2%	No

Another possible explanation consists in the relatively difficult access of each class to the computer rooms, while ordinary classrooms have usually lower performance work stations. Thus, for implementing VI applications in the lessons, some teachers had to change students' and their own timetable, a fact that had negative consequences in building students' disposition for special types of lessons. Some of the students mentioned the fact that VI applications should be used only occasionally as such a lesson requires special arrangements which are sometimes uncomfortable.

At the last item of the questionnaire - „5. Please, add any other comments you have about using virtual experiments within the science lessons” - between students' answers there were very interesting suggestions such as: the wish to enlarge the number of school subject matters where VI applications could be designed, the suggestion of involving students in creating VI applications for their colleagues, or the wish that the school should create a data base with a variety of applications for teaching of sciences through VI applications. The pertinent solutions and comments that students gave at this open question entitles us to comment that, as a general experience, the first encounter of students with VI instruments had a positive impact on both cognitive and attitude level.

Conclusions

The feedback of students involved in lessons organised around virtual experiments created with the two software Crocodile Clips and Cabri Geometry allow us to formulate the following conclusions:

- Lessons that imply the use of VI tools are generally well received by the students, most of them appreciating that these lessons are motivating and challenging;
- VI facilitates the concept understanding process in Mathematics and Physics;
- VI applications allow for an interactive study of the scientific phenomena in focus, thus placing the teaching actions in the newest educational approaches and currents;
- Use of VI enhances the experimental features of certain school subject matters, thus improving their attractivity at the level of students.

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«la mesure dans laquelle un élève: a) possède des connaissances scientifiques et les utilise pour identifier les questions associées, acquérir de nouvelles connaissances, expliquer des phénomènes scientifiques et s'appuyer sur des données probantes pour tirer des conclusions concernant certains problèmes d'ordre scientifique; b) comprend les caractéristiques mêmes de la science en tant que forme de connaissance et sujet d'étude de l'homme; c) est conscient de la mesure dans laquelle la science et la technologie façonnent notre environnement matériel, intellectuel et culturel; et d) s'intéresse aux questions d'ordre scientifique et s'adonne, en tant que citoyen éclairé, à des réflexions concernant la science».

Par exemples, des compétences comme sont les dernières ont été valorisées par le programme PISA 2006 (sélection):

- l'identification des problèmes et questions auxquelles on peut apporter une réponse par une investigation scientifique;
- l'identification des termes clés nécessaires dans la recherche d'informations scientifiques;
- la connaissance des principales caractéristiques d'une investigation scientifique;
- l'application des connaissances scientifiques dans une situation donnée;
- la description ou l'explication scientifique des phénomènes et la prévision des changements qui peuvent intervenir;
- la connaissance des principes nécessaires à respecter dans une investigation scientifique: la cohérence logique, le recours aux faits comme éléments de preuve et la connaissance historique et contemporaine etc.
- l'élaboration des descriptions, des explications et des prévisions appropriées;
- la connaissance des types d'explications possibles: hypothèses, théories, modèles et lois scientifiques;
- la production des connaissances qui soutient l'élaboration des réponses aux questions scientifiques;
- l'interprétation des données scientifiques et la formulation des conclusions;
- l'identification des hypothèses, des preuves et des raisonnements qui sous-tendent des conclusions;
- le choix du type d'investigation scientifique en fonction de la nature des questions et de sa projection;
- production des données et la connaissance des types des données (par exemple: des données quantitatives obtenues par mesurage et des données qualitatives obtenues par l'observation);
- le mesurage correcte pour assurer la reproductibilité des procédures et la connaissance des facteurs qui peuvent altérer le mesurage: la précision des appareils, la précision des procédures appliquées etc.
- la connaissance des caractéristiques des résultats (par exemple les résultats empiriques, provisoires ou susceptibles d'être mis à l'épreuve, d'être falsifiés ou de se corriger eux-mêmes).

LA CULTURE SCIENTIFIQUE DANS L'ENQUETE PISA 2006

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Zusammenfassung

Diese gegenwärtige Studie PISA die durch die Untersuchung analysierten Aspekte 2006 im Bereich der Wissenschaften: Kenntnisse, Kompetenzen, der Vorgang der wissenschaftlichen Kenntnis, die Werte und die Einstellungen, die mit der Studie der Wissenschaften verbunden sind. Das Programm PISA betrachtet diese als Aspekte notwendig es für die Lehre alles entlang des Lebens, aber die Ergebnisse, die von den rumänischen Schülern von 15 Jahren erzielt wurden, zeigen, daß sie sie nicht besitzen.

Résumé

Cette étude présente les aspects analysés par l'enquête PISA 2006 dans le domaine des sciences: connaissances, compétences, le processus de la connaissance scientifique, les valeurs et les attitudes reliées à l'étude des sciences. Le programme PISA considère ces aspects nécessaires pour l'apprentissage tout le long de la vie mais les résultats obtenus par les élèves roumains de 15 ans montrent qu'ils ne les possèdent pas.

I. L'enquête internationale PISA 2006

L'organisation pour la coopération et le développement économique (OECD) a lancé le Programme international de recherche sur les performances des élèves (PISA) en 1997, pour répondre ainsi au besoin d'informations comparables au niveau international. L'enquête PISA a été réalisée dans la période mars et novembre 2006 avec l'accord des gouvernements des pays OEDC, pays qui représentent 90% de l'économie mondiale. C'est la plus rigoureuse enquête réalisée au niveau international et elle servira comme point de départ pour les investigations et les analyses approfondies, réalisées au niveau national et international. La préoccupation de base a été l'obtention des informations concernant les objectifs des politiques éducationnelles et les méthodes d'instruction qui développent aux élèves des compétences utiles à l'âge adulte: la capacité d'extrapoler et l'application des connaissances dans de nouvelles situations, originales et dans de contextes plus ou moins rapprochés des connaissances scolaires. On a investigué aussi l'intérêt des élèves pour l'apprentissage et on a cueilli des informations concernant le contexte d'instruction des élèves (les familles et les facteurs institutionnels), ce qui pourrait expliquer les différences de performance.

Les domaines fondamentaux étudiés ont été: la compréhension de l'écriture et les performances des élèves en mathématiques et des sciences, ces deux derniers constituant le domaine principal soumis à l'évaluation PISA. L'enquête PISA a évalué les étapes de l'acquisition des connaissances et des compétences essentielles pour que les élèves puissent participer à la vie de la société. Dans la société technologique actuelle, la compréhension des théories et des concepts scientifiques fondamentaux, la structuration et la résolution des problèmes scientifiques représentent des compétences plus importantes que jamais.

Cependant, pendant les derniers 15 ans, les options des élèves pour l'étude des sciences à l'université ont diminué visiblement. Les raisons de l'indifférence des élèves pour l'étude de ces disciplines sont multiples, mais certaines études montrent que l'attitude des élèves pour l'étude des sciences et les méthodes d'instruction utilisées jouent, probablement, le rôle principal.

Par conséquent, dans l'enquête PISA ont primé non seulement les connaissances déclaratives mais aussi les procédures scientifiques, l'intérêt des élèves pour l'étude des sciences et la mesure dans laquelle les élèves sont conscients de l'importance des compétences scientifiques dans la vie.

L'enquête PISA 2006 sera complétée dans le futur, ainsi PISA 2009 aura comme domaine principal d'enquête la compréhension de l'écriture, en format électronique, PISA 2012 évaluera la culture mathématique et PISA 2012 se concentrera sur la culture scientifique.

La démarche de l'enquête et les méthodes appliquées ont été les suivantes:

- la sélection d'un échantillon représentatif de 400.000 élèves, provenant d'un échantillon de 20 millions des jeunes de 15 ans provenant de 57 pays participants;
- la préférence pour les tests type papier crayon. La majorité des élèves ont répondu aux tests du type papier crayon, la durée du test en étant de deux heures, seulement les élèves de trois pays ont répondu sur l'ordinateur aux questionnaires;
- la structure des épreuves. Les épreuves appliquées contiennent des items regroupés dans des unités, qui sollicitent l'élaboration de la réponse et des questions à réponses multiples. Les unités d'items ont été regroupées en base d'un texte ou graphique qui se rapporte à l'expérience de la vie quotidienne des élèves;
- la préoccupation pour l'ambiance. Les élèves ont été sollicités à répondre en 30 minutes au questionnaire centré sur l'ambiance familiale, leurs habiletés d'apprentissage et leur attitude concernant les sciences et leur motivation pour l'étude des sciences;
- l'évaluation n'a pas inclue les élèves de 15 ans qui n'étudient pas dans une institution d'enseignement, les élèves avec déficience intellectuelle, les élèves avec un grade de handicap et ceux qui ne connaissent pas la langue de l'examen;
- les échantillons d'élèves ont eu d'effectifs différents d'un pays à l'autre;
- les directeurs d'institutions ont complété, à leur tour, des questionnaires concernant l'institution scolaire, les caractéristiques démographiques et la qualité de l'ambiance d'instruction;
- les parents des élèves ont été aussi questionnés. Dans 16 pays les parents des élèves ont été questionnés sur les investissements qu'ils font pour l'éducation de leurs enfants et leur point de vue concernant le contenu qui a fait l'objet de l'enquête.

II. La culture scientifique dans la vision de l'enquête PISA 2006

Par la culture scientifique PISA 2006 a compris les suivants composants:

- a. *les concepts scientifiques.* PISA a réalisé la distinction entre les connaissances appartenant aux sciences et les connaissances sur les sciences. On a investigué la possession des concepts scientifiques nécessaires à une meilleure compréhension des phénomènes naturels et des changements provoqués par l'homme (les connaissances de la science), et surtout les méthodes scientifiques et les raisonnements utilisés à l'application de la connaissance scientifique dans la résolution de quelques problèmes scientifiques (les connaissances concernant la science).
- b. *les démarches scientifiques.* PISA a investigué la capacité des élèves de 15 ans d'accumuler des preuves, de les interpréter et d'agir en fonction des conclusions tirées. C'est-à-dire: la reconnaissance des questions et des problèmes d'intérêt scientifique, l'identification d'arguments et de preuves concrètes, la formulation des conclusions et leur communication, la constatation de la compréhension des concepts scientifiques, l'élaboration des explications scientifiques pour la description des phénomènes scientifiques et la réalisation des prédictions y concernant, l'utilisation des faits scientifiques pour la prise des décisions et pour leur communication.
- c. *les situations ou les contextes scientifiques.* Pour l'investigation PISA a présenté intérêt l'utilisation des concepts scientifiques pour la résolution des problèmes réels (par exemple, l'effet de serre, le manque de l'eau, le traitement de l'eau potable), de la vie de tous les jours et pas du laboratoire. Les contextes scientifiques investigués par PISA (OCDE, 2007) ont été le contexte personnel, le contexte social et le contexte global. Les thèmes:
 - la santé;
 - les ressources naturelles;
 - la qualité de l'environnement;
 - les risques;
 - les frontières de la science et de la technologie. ont été analysées par les trois contextes. Par exemple, pour la santé les contextes sont:
 - contexte personnel- la conservation de la santé, la prévention des accidents et la nutrition;
 - contexte social - la prévention des maladies, de la transmission des maladies, la santé publique;
 - contexte globale - la gestion des épidémies et la propagation des maladies infectieuses.
- d. *les valeurs et des attitudes concernant la science et la motivation pour l'étude des sciences.* Par exemple, l'intérêt pour la science vise la valeur accordée à la recherche scientifique ou la disponibilité pour l'assurément d'une responsabilité concernant la nature et les ressources, le désir d'engagement civique dans l'identification et la résolution des problèmes scientifiques etc.

PISA 2006 a défini les *compétences en sciences* (la *culture scientifique*) comme

STUDY ON LEARNING SITUATIONS STARTING FROM REGIONAL GEOGRAPHY MAPS AND THE CONSTRUCTIVIST THEORY

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Abstract

In the first part of our paper we present several theoretical aspects on constructivism, radical constructivism, cognitive constructivism, and on the social one. We researched on how knowing reality is planned and organised during Regional Geography classes starting from the behaviourist theory, from radical constructivism, and from cognitive constructivism. We tried to find the answer to the following question: if the subject to be known is France, how could students know the reality of this country, during an experiential learning situation, according to the theories of radical and cognitive constructivism? In this paper we present a comparative study on traditional learning situations, based on achieving knowledge through observation, receiving, and memorising, according to moderate constructivism and learning situations organised according to cognitive constructivism. Taking into account the features of each learning situation, students find themselves on different knowledge levels: the level of identifying elements from reality or from its representation; the level of analysing the identified elements; the level of interpreting the identified elements; the level of restructuring the identified elements. We drew the conclusion that each student might get involved adequately in a learning situation constructed according to the principles of radical or of cognitive constructivism if he or she was previously involved into learning situations where the teacher helped in achieving knowledge models.

Key words: constructivism, Regional Geography, knowledge, learning model, learning situation, radical constructivism, cognitive constructivism, moderate constructivism.

Theoretical Coordinates

Constructivism is an epistemological issue, a theory of knowledge, a paradigm as it reveals the way people construct the knowledge of objective reality that is perceptive and independent of the subject who wants to know it. People may know reality in a subjective way, discovering it through individual and collective construction, experiencing, understanding, interpreting, and giving arguments, by using a certain language. Constructivist epistemology insists on focusing on the subjects who wants to know the reality, on his or her experiences, on

Concernant les valeurs, PISA 2006 a été intéressée par:

- reconnaître l'importance d'avoir des perspectives différentes sur un fait scientifique et de produire et d'accepter des arguments différents;
- valoriser l'utilisation de procédures scientifiques, rationnelles et minutieuses pour tirer des conclusions;
- réaliser efficacement les tâches de nature scientifique;
- dépasser des difficultés dans la résolution des problèmes scientifiques;
- démontrer des solides compétences scientifiques etc.

III. Les résultats obtenus dans les enquêtes internationales par les élèves roumaines

Dans les enquêtes internationales sur les performances des élèves aux mathématiques et aux sciences: TIMSS 1995, 1999, 2003 et PISA 2003, 2006, la position de la Roumanie se situe près de la fin de hiérarchie: par exemple, à l'évaluation PISA de 2001, la Roumanie a occupé la position 34, en étant devancée par 30 pays et en devançant 8 pays. Aux sciences la Roumanie a occupé la 32-e place, en étant devancée par 29 pays et en devançant 8 pays.

L'enquête TIMSS 2003, aux mathématiques et aux sciences, a mis en évidence le fait que les résultats des élèves de 15 ans aux sciences n'ont pas enregistré des variations significatives par rapport aux résultats antérieurs: en 1995 (score enregistré – 471) ou 1999 (score enregistré – 472) et en 2003 (score – 470), en se situant toujours sous les moyennes internationales.

Le résultat concernant la culture scientifique, obtenu par les élèves roumains dans l'enquête PISA 2006 a été de 418 points. PISA a explicité les résultats obtenus de chaque pays, par six niveaux de la compétence.

- Niveau 1 (entre 334.94 et 409.54 points) – Compétences: connaissances scientifiques très limitées, applicable dans un petit nombre de situations familiales.
- Niveau 2 (entre 409.54 et 484.14 points) – Compétences: connaissances scientifiques nécessaires pour fournir des explications plausibles dans des contextes familiaux ou pour formuler les conclusions de recherches simples.
- Niveau 3 (entre 484.14 et 558.73 points). Compétences: identifier des questions scientifiques dans des contextes différents, sélectionner des faits et des connaissances pour expliquer des phénomènes, appliquer des concepts scientifiques et des stratégies de recherche, interpréter, utiliser et élaborer des arguments, prendre des décisions en s'appuyant sur leurs connaissances scientifiques.
- Niveau 4 (entre 558.73 et 633.33 points). Compétences: résoudre des situations ou des problèmes qui impliquent des phénomènes explicites et qui demandent de faire des déductions concernant le rôle des sciences ou de la technologie, sélectionner et intégrer des explications issues de disciplines scientifiques ou technologiques différentes, en les utilisant dans la vie réelle.

- Niveau 5 (entre 633.33 et 707.93 points). Compétences: identifier les aspects scientifiques de situations complexes, reliés à la vie réelle, et y utiliser des concepts scientifiques et des connaissances à propos des sciences, comparer, sélectionner et évaluer les faits scientifiques, rechercher des faits et des liens entre les faits, analyser d'une manière critique les démarches, élaborer des explications sur la base des faits et des arguments fondés sur les analyses critiques.
- Niveau 6 (score supérieur à 707.93 points). Compétences: identifier, expliquer, appliquer des connaissances en sciences et des connaissances à propos des sciences dans un éventail de situations complexes, relié à la vie réelle, établir des liens entre différentes sources d'information, élaborer des explications pertinentes et complexes, justifier des décisions, exploiter les connaissances scientifiques pour argumenter et prendre des décisions etc.

Tableau 1. Les résultats obtenus par les élèves à six niveaux de compétence (selection)

	Niveaux de compétence													
	Sous le niveau 1		Niveau 1		Niveau 2		Niveau 3		Niveau 4		Niveau 5		Niveau 6	
	%	Er. T.	%	Er. T.	%	Er. T.	%	Er. T.	%	Er. T.	%	Er. T.	%	Er. T.
Australie	3,0	(0,3)	9,8	(0,5)	20,2	(0,6)	27,7	(0,5)	24,6	(0,5)	11,8	(0,5)	2,8	(0,3)
Autriche	4,3	(0,9)	12,0	(1,0)	21,8	(1,0)	28,3	(1,0)	23,6	(1,1)	8,8	(0,7)	1,2	(0,2)
Belgique	4,8	(0,7)	12,2	(0,6)	20,8	(0,8)	27,6	(0,8)	24,5	(0,8)	9,1	(0,5)	1,0	(0,2)
Canada	2,2	(0,3)	7,8	(0,5)	19,1	(0,6)	28,8	(0,6)	27,7	(0,6)	12,0	(0,5)	2,4	(0,2)
République tchèque	3,5	(0,6)	12,1	(0,8)	23,4	(1,2)	27,8	(1,1)	21,7	(0,9)	9,8	(0,9)	1,8	(0,3)
Danemark	4,3	(0,6)	14,1	(0,8)	26,0	(1,1)	29,3	(1,0)	19,5	(0,9)	6,1	(0,7)	0,7	(0,2)
Finlande	0,5	(0,1)	3,6	(0,4)	13,6	(0,7)	29,1	(1,1)	32,2	(0,9)	17,0	(0,7)	3,9	(0,3)
France	6,6	(0,7)	14,5	(1,0)	22,8	(1,1)	27,2	(1,1)	20,9	(1,0)	7,2	(0,6)	0,8	(0,2)
Allemagne	4,1	(0,7)	11,3	(1,0)	21,4	(1,1)	27,9	(1,1)	23,6	(0,9)	10,0	(0,6)	1,8	(0,2)
Grèce	7,2	(0,9)	16,9	(0,9)	28,9	(1,2)	29,4	(1,0)	14,2	(0,8)	3,2	(0,3)	0,2	(0,1)
Hongrie	2,7	(0,3)	12,3	(0,8)	26,0	(1,2)	31,1	(1,1)	21,0	(0,9)	6,2	(0,6)	0,6	(0,2)
Bulgarie	18,3	(1,7)	24,3	(1,3)	25,2	(1,2)	18,8	(1,1)	10,3	(1,1)	2,6	(0,5)	0,4	(0,2)
Croatie	3,0	(0,4)	14,0	(0,7)	29,3	(0,9)	31,0	(1,0)	17,7	(0,9)	4,6	(0,4)	0,5	(0,1)
Estonie	1,0	(0,2)	6,7	(0,6)	21,0	(0,9)	33,7	(1,0)	26,2	(0,9)	10,1	(0,7)	1,4	(0,3)
Hong Kong-Chine	1,7	(0,4)	7,0	(0,7)	16,9	(0,8)	28,7	(0,9)	29,7	(1,0)	13,9	(0,8)	2,1	(0,3)
Indonésie	20,3	(1,7)	41,3	(2,2)	27,5	(1,5)	9,5	(2,0)	1,4	(0,5)	0,0	a	a	a
Israël	14,9	(1,2)	21,2	(1,0)	24,0	(0,9)	20,8	(1,0)	13,8	(0,8)	4,4	(0,5)	0,8	(0,2)
Jordanie	16,2	(0,9)	28,2	(0,9)	30,8	(0,8)	18,7	(0,8)	5,6	(0,7)	0,6	(0,2)	0,0	a
Kirghizistan	58,2	(1,6)	28,2	(1,1)	10,0	(0,8)	2,9	(0,4)	0,7	(0,2)	0,0	a	a	a
Lettonie	3,6	(0,5)	13,8	(1,0)	29,0	(1,2)	32,9	(0,9)	16,6	(1,0)	3,8	(0,4)	0,3	(0,1)
Liechtenstein	2,6	(1,0)	10,3	(2,1)	21,0	(2,8)	28,7	(2,6)	25,2	(2,5)	10,0	(1,8)	2,2	(0,8)
Lituanie	4,3	(0,4)	16,0	(0,8)	27,4	(0,9)	29,8	(0,9)	17,5	(0,8)	4,5	(0,6)	0,4	(0,2)
Monténégro	17,3	(0,8)	33,0	(1,2)	31,0	(0,9)	14,9	(0,7)	3,6	(0,4)	0,3	(0,1)	0,0	a
Qatar	47,6	(0,6)	31,5	(0,6)	13,9	(0,5)	5,0	(0,4)	1,6	(0,1)	0,3	(0,1)	0,0	(0,0)

Roumanie	16,0	(1,5)	30,9	(1,6)	31,8	(1,6)	16,6	(1,2)	4,2	(0,8)	0,5	(0,1)	0,0	a
Fédération de Russie	5,2	(0,7)	17,0	(1,1)	30,2	(0,9)	28,3	(1,3)	15,1	(1,1)	3,7	(0,5)	0,5	(0,1)
Serbie	11,9	(0,9)	26,6	(1,2)	32,3	(1,3)	21,8	(1,2)	6,6	(0,6)	0,8	(0,2)	0,0	a
Slovénie	2,8	(0,3)	11,1	(0,7)	23,1	(0,7)	27,6	(1,1)	22,5	(1,1)	10,7	(0,6)	2,2	(0,3)
Taipei chinois	1,9	(0,3)	9,7	(0,8)	18,6	(0,9)	27,3	(0,8)	27,9	(1,0)	12,9	(0,8)	1,7	(0,2)
Thaïlande	12,6	(0,8)	33,5	(1,0)	33,2	(0,9)	16,3	(0,8)	4,0	(0,4)	0,4	(0,1)	0,0	a
Tunisie	27,7	(1,1)	35,1	(0,9)	25,0	(1,0)	10,2	(1,0)	1,9	(0,4)	0,1	(0,1)	0,0	a
Uruguay	16,7	(1,2)	25,4	(1,1)	29,8	(1,5)	19,7	(1,1)	6,9	(0,5)	1,3	(0,2)	0,1	(0,1)

On analysant le contenu du tableau on peut observer que la Roumanie, comme Mexique, Turquie, Kirghizistan, Qatar, Azerbaïdjan, Tunisie, Indonésie, Brésil, Colombie, Argentine, Monténégro, Thaïlande, Jordanie, Bulgarie et Uruguay, appartient au groupe des pays qui ont enregistré les performances les moins élevées lors de l'étude PISA, en se situant au dessous ou au première niveau de compétence. Ces élèves de 15 ans ne possèdent pas que très faibles compétences en sciences.

Conclusion.

L'enquête PISA 2006 prouve que, malgré les résultats obtenus aux plusieurs évaluations antérieures, la politique éducationnelle de notre pays dans le domaine de l'enseignement des sciences n'a pas connu aucun changement. Par conséquent, les résultats obtenus par les élèves roumains restent toujours médiocres.

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Table 3. Neighbours of a certain country (Dulamă, 2006)

Teacher's activity	Students' activity (expected answers)
- Which are the neighbours of France? (identification)	- France is neighbouring Belgium to the north, Luxemburg and Germany to the north-east, Austria to the east, Italy and Monaco to the south-east, Spain and Andorra to the south.
- Which are the oceans and seas neighbouring France? (identification)	- France is neighbouring the Mediterranean Sea to the south-east, the Atlantic Ocean to the south-west, and the English Channel to the north-west.
- Which is the influence of the Mediterranean Sea on France? (interpretation)	- The opening to the Mediterranean Sea is important for sea transports, for tourism, for fishing, etc. (a general answer)
- What features do the shores of France have? (analysis)	- The western shore, to the Atlantic Ocean and to the English Channel is a low shore, with estuaries and gulfs. The shore to the Mediterranean Sea is low in the western part where the Rhone forms a delta and it is higher in the east where the Alps reach the seaside.

In this situation, *the level of identifying the elements* is constructed starting from students' previous knowledge and without them identification would not be possible. Previous declarative knowledge necessary in order to learn about reality in a correct way, includes the following concepts: plan globe, hemisphere, parallel, meridian, the Equator, country, continent, ocean, thermic zone, temperate zone, the North Pole, etc. At this level, students identify the visible elements on the map without identifying any spatial relationships with other elements. At *the level of analysing the elements* identified on the map, students establish topographical relationships between the identified objects, correlating them with the cardinal points and one another. At *the level of interpreting the elements* identified on the map, students need not only to update declarative knowledge appealing to their memory and to identify spatial relationships among elements, but they also have to establish cause-effect relationships. Examples: if the value of the parallels increases in degrees to the north, then the analysed territory lies in the northern hemisphere; if the 45° N latitude parallel crosses a territory, then this lies at half distance between the North Pole and the Equator, in the temperate thermic zone; if the Zero Meridian crosses a territory, then a part lies in the eastern hemisphere and another in the western one; if a territory lies close to the Atlantic Ocean, then this is important from a climatic point of view, for rivers, for landforms in the shore area, for the economic development of the respective territory.

Involving students into these learning situations, they should achieve a *knowledge model for the geographical position* of a territory (a country in this case), where they observe certain rules and an algorithm. For instance, first we analyse the position of that territory on

knowledge relativity, on individual differences in knowledge (Joița, 2006). Constructivists consider knowing/knowledge a subject's active construction not passive information reception about the environment, through transmission during "teaching". Knowledge facts are not simple copies, representations of the world, with different ways of knowing, of understanding, and of interpreting it. People construct knowledge by interacting with objects, with reality, in a direct, independent way, and they process, integrate, and generalise them at a mental level. International literature identified three types of constructivism related to the learning process (apud Joița, 2006): radical constructivism (Glaserfeld, 1981, 1983, 1989, 1992, 2000; Elgedawy, 2001), cognitive constructivism (Conway, 1997; Jonassen, 1993; Anderson, 1996; Briner, 1999; Spiro, 2001), and social constructivism (Dougiamas, 1998; Derouet, 1998; Doolittle, 1999; Wilson, 2000).

Radical constructivism appeared as a reaction to the behaviourist conception interested in ensuring the external conditions of learning and in final, noticeable, and measurable behaviour (Tolman, Skinner, Gagné, Bloom, etc.), and not in modalities of understanding knowledge and knowing (Joița, 2006). The theoretician of radical constructivism, Ernest von Glasersfeld, uses the term "radical" in order to point out the rupture between traditional constructivism where knowing the reality is done by transmitting knowledge and the scientific knowledge constructed by the individual through his or her direct actions. This author modifies the classical epistemological theory considering that any act of knowing undergoes a process of continuous perfection according to personal understanding, and then of communication in a larger and larger group. Direct activity is experiential, and constructivism is instrumental. The experiential world is already constructed and structured, and people perceive it subjectively, in small steps, from one element to another, and then combine them mentally, realise hierarchies, structure, relate them forming their own mental schemes, and conceptual structures. Von Glasersfeld develops Piaget's ideas such as "intelligence organises the real world, organising itself". From Piaget he takes the interpretation of knowledge as an adaptive function, realised through assimilation, accommodation, and balance. If for Piaget knowledge was an adaptive function of ontogenesis, for Glasersfeld it is a result of individual's own interpretation of the features of reality through direct research. Glasersfeld sustains that one should start construction of knowledge early, in school, and then add progressively methodology and contents. There are two approaches: *radical constructivism*, when students access knowing/knowledge on their own, subjectively, without the educator's intervention, and *moderate constructivism*, when students and teacher cooperate in projecting and realising instruction (Mayer, 1999).

In *cognitive constructivism*, accumulation of knowledge does not only entail direct experience but also turns to good account the data offered by culture, synthesizing consolidated cognitive experience that may be starting points for cognition.

Motivation

Starting from behaviourist theory, from the one of radical constructivism and of the cognitive one, we researched on how knowing reality is planned and organised during *Regional Geography* classes. We tried to find the answer to the following question: if the subject to be known is France, how could students know the reality of this country, during

an experiential learning situation, according to the theories of radical and cognitive constructivism? Because students cannot know France through direct experience during a Geography class, our research starts from the hypothesis of constructing knowledge about France by involving students into cognitive situations based on data and representations that synthesise information on this subject. We decided to make a comparative study on traditional learning situations, based on achieving knowledge through observation, receiving, and memorising, according to moderate constructivism and learning situations organised according to cognitive constructivism.

Presentation and Analysis of Learning Situations

First, we shall present learning situations constructed starting from the theory of moderate constructivism, where students construct their own knowledge about France using a representation of the country (a map), directed by teacher's questions. During the first learning situation, students should be able to locate France on the globe, on the continent, and in the region. There are two question categories: questions targeting the analysis of the elements represented on the map and questions targeting their interpretation. Knowing the reality represented on the map may be constructed through three cognitive levels: a) the level of identifying elements through observation; b) the level of analysing the identified elements; c) the level of understanding (interpreting) their significance.



Table 1. Geographical position on the globe (Dulamă, 2006)

Teacher's questions	Expected answers
- Look at the plan globe. In what hemisphere is France situated? (map analysis)	- France lies in the northern hemisphere.
- How have you deduced that? (map interpretation)	- The value of the parallels, in degrees, increases to the north.
- What important parallel crosses France? (analysis)	- The 45° and the 50° N latitude parallels cross France.
- What consequence has the fact that the 45° N latitude parallel crosses France? (interpretation)	- France is situated at half distance between the North Pole and the Equator, in the temperate zone, similarly to Romania.
- What other European countries does the 45° N latitude parallel cross? (analysis)	- The 45° N latitude parallel crosses Italy, Croatia, Bosnia and Herzegovina, Serbia, Romania and other European countries.
- What important meridian crosses France? (identification)	- The Zero Meridian crosses France.
- What consequence has the fact that the Zero Meridian crosses France? (interpretation)	- A part of France is situated in the eastern hemisphere and another one in the western one.
- What other territories belong to France? (analysis)	- The Isle of Corsica in the Mediterranean Sea, and the French Guyana in South America.

Table 2. Geographical position on the continent (Dulamă, 2006)

Teacher's activity	Students' activity (expected answers)
- Look at the <i>Physical Map of Europe</i> . In what part of Europe does France lie? or - In what region of Europe does France lie? (analysis)	- France lies in Western Europe.
- What are the consequences of France lying in western Europe? (interpretation)	- France lies close to developed countries. - France lies close to the Atlantic Ocean.
- How far from the Atlantic Ocean is France? (analysis)	- France lies close the Atlantic Ocean, having shores in the south-west.
- What are the consequences for France to be near the Atlantic Ocean? (interpretation)	- The Atlantic Ocean influences climate, rivers, landforms in the shore area, economic development (transports, tourism, fishing, etc.), etc. (this is a general answer and one can give a lot of details)

position of France would have certainly been lacunary, with errors, and incoherent. In order to assess the way students solved the task, the teacher asks them: to elaborate a text; to elaborate a graphical organiser; to present what they wrote.

Similarly, teachers may construct situations for achieving knowledge about the relief of a certain country and students are first guided by teacher's questions.

Operational objective: during this learning sequence students will be able to discover new information about the landforms of France through map analysis and guided by teacher's questions.

- Look at the *Physical Map of France*. Which is the landform that is most extended in France? (The western half of France is made of fields, and the eastern one is dominated by tablelands and mountains.) (analysis)

- What consequences have this distribution of landforms upon the other environmental components? (*Hypotheses:* The soils in the field regions are favourable for developing agriculture. Mountains have diverse underground resources, and at their surface there are pastures, hayfields and woods, and they also favour tourism development. Fields allow the movement of air masses from the ocean to the continent, and mountains are an obstacle, and that is why rainfall is heavier in the mountains than in the fields, etc.) (interpretation)

- Which are the main fields of France according to their surface? (The most important fields of France are the Parisian Basin, the Loire Field, and the Aquitaine Basin.) (analysis)

- In what part of France do the most important fields lie? (The most important fields of France lie in the west) (analysis)

- What is the importance of these fields for France? (*Hypothesis:* France is the biggest producer of cereals in the EU) (interpretation)

- What is the importance of the position of these fields for France? (*Hypotheses:* The existence of fields in western France facilitates the development of railway and road transport on a north-south direction, development of agriculture in large farms, etc.) (interpretation)

- Which are the major mountain units as surface in France? (... the Central Massif, the Pyrenees, the Alps, the Jura, the Vosges.) (analysis)

- In what part of France do mountains lie? (In the centre of France lies the Central Massif, the Pyrenees lie in the south, the Alps lie in the south-east, the Jura in the east, and the Vosges in the north-east.) (analysis)

- What are the consequences of the position of mountains for France? (*Hypothesis:* Mountains are an obstacle for air masses ...) (interpretation)

- Which is the maximum altitude for the mountains of France? (The maximum altitude in France is 4,807 m in Mont Blanc Peak in the Alps, the highest peak in Europe.) (analysis)

the globe, then its position on the continent, and eventually its neighbours. When analysing its neighbours their presentation usually starts from the north, clockwise, and for each neighbour one should mention the cardinal or intercardinal point.

Teachers may guide students in achieving knowledge through tasks that have diverse difficulty degrees for the requested competence level. Students work individually, following the cognitive route that teachers proposed, but they receive feed-back only after solving the tasks and this leads to knowledge errors, in comparison with the learning situation based on dialoguing with the educator.

Operational objective: during this learning sequence students will be able to fill in the gaps in the text with information from the map on the geographical position of France

Task: Look at the *Map of France* and complete the following text:

"France lies in the ... (northern) hemisphere. France is crossed by the ... (45°) N latitude parallel and by the ... (50°) N latitude one. France is crossed by the ... (Zero) Meridian. Part of France lies in the ... (eastern) hemisphere and another in the ... (western) one. To France belong the ... (Corsica) Isle in the Mediterranean Sea and ... (the French Guyana) in South America. France lies in ... (Western) Europe. France is neighbouring ... (Belgium) to the north, (Luxemburg) and ... (Germany) to the north-east, (Austria) to the east, (Italy) and ... (Monaco) to the south-east, (Spain) and ... (Andorra) to the south. France is neighbouring the ... (Mediterranean) Sea to the south-east, the ... (Atlantic) Ocean to the south-west, and the... (English) Channel to the north-west." (Dulamă, 2006)

This text is constructed for *the levels of identifying and analysing the elements* on the map, and students do identification operations for visible elements, simple analyses and reasonings in order to establish spatial relationships. Teacher may ask students to complete a table or a graphical organiser (e.g. cluster, tree-type) with data from the respective map. They should complete the table with the pieces of information we mentioned between brackets. During these completion items, students do not reach *the level of interpreting elements*, and thus their knowledge lies at inferior levels, those of identifying and analysing certain elements. Using these graphical organisers, students learn to structure and restructure information according to logical and scientific criteria (in this case, they are specific to Regional Geography) that other persons established. For a scientific process of learning, that students are aware of, they must be also aware of the algorithm, in this case, that of studying the geographical position, the criteria for extracting and for restructuring information from reality or from its representations.

Operational objective: during this learning sequence students will be able to complete a table with information extracted from a map on the geographical position of France

Task: Study on the map the geographical position of France. Complete the information in the table on the blackboard.

Table 4. Geographical position of France (a) (Dulamă, 2006)

Geographical position of France	
On the globe	- crossed by the ... (45° N lat.) parallel → in the ... (Northern) Hemisphere - crossed by the ... (Zero) meridian → in the ... (Eastern) Hemisphere and in the ... (Western) Hemisphere
On the continent	- in the ... (W) of Europe → ... (continental) country, ... (Western European) country - republic with a large surface - ... km ²
Neighbours	N – (BELGIUM) NE – (Luxemburg, Germany) E – (Austria) SE – (Italy) S – (the Mediterranean Sea, Monaco, Spain, Andorra) SW – (the Atlantic Ocean) NW – (the English Channel)

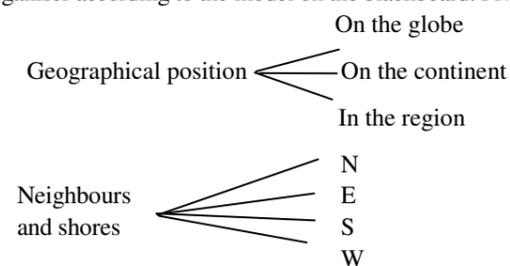
Table 5. Geographical position of France (b)

Position of France on the globe	
Latitude	
Longitude	

The neighbours of France			
North	East	South	West

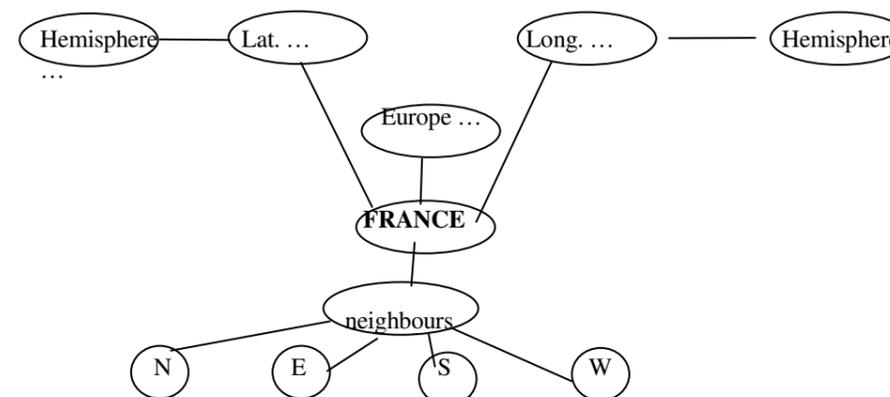
Operational objective: during this learning sequence students will be able to elaborate a tree-type graphical organiser about the geographical position of France

Task: Analyse the map of France in the textbook and elaborate a tree-type graphical organiser according to the model on the blackboard. Five minutes (Dulamă, 2006).



Operational objective: during this learning sequence students will be able to elaborate a cluster with data from a map on the geographical position of France

Task: Work in groups of four. Analyse the map of France in the textbook and complete the cluster on the blackboard with data on the geographical position of France and on its features as a state. Five minutes (Dulamă, 2006).



After students achieved these knowledge models, they get involved into knowledge situations constructed according to the principles of radical constructivism in a subjective way, with no help from the teacher.

Variante 1. *Task:* Each of you should look at the *Physical Map of Europe*. a) Which is the geographical position of France on the globe and which are the consequences of this position? b) Which is the geographical position of France on the continent and which are the consequences of this position? c) Elaborate a text (a paragraph) that contains the above-mentioned information. d) You will present this information in front of your colleagues. Five minutes.

Variante 2. *Task:* Each of you should look at the *Physical Map of Europe* and at the *Physical Map of France*. a) Identify the geographical position of France on the globe, on the continent, and the consequences of this position. b) Realise a graphical organiser in your notebooks that should include information about the geographical position of France. Five minutes.

If students had not involved previously in learning situations where to achieve a knowledge model and information structuring models, they would have run a very big risk of not solving correctly the tasks. The knowledge they constructed about the geographical

Example 4

Operational objective: during this learning sequence students will be able to compare the rivers of France using certain comparison criteria

Task: Complete a Venn diagram with features characteristic of the Seine, of the Rhone, and of both. Compare the two rivers according to the following criteria: length, spring, type of the river mouth, flow direction, flow, importance.

Example 5

Operational objective: during this learning sequence students will be able to write the names of landforms of Europe on a mute map

Task: Write the names of the landforms and rivers in the list below on the lines and gaps on the mute map of France using abbreviations and the map in the textbook.

Mountains: the Alps, the Pyrenees, the Jura, the Vosges

Volcanoes: the French Central Massif

Tablelands: the Ardennes

Fields: the Parisian Basin, the Aquitaine Basin, the Loire Field

Rivers: the Seine, the Loire, the Garonne, the Rhone.

Students are guided because on the mute map there are the lines where they should write the respective names and landforms are already delimited. They also received a list with names, and thus they do not have to select the elements to be represented.

Example 6

Operational objective: during this learning sequence students will be able to elaborate a scheme of the landforms and hydrographical network of France using the contour map and analysing the one in the textbook.

Task: Study the map of France in the textbook. You have five minutes to elaborate the scheme of the landforms and of the hydrographical network of France on a contour map (on a whole sheet of paper). You will represent the following: mountain chains with bold brown lines that correspond to the direction of the main heights or with surfaces coloured in brown, corresponding to surface; the highest peaks with small brown triangles; hills and tablelands through surfaces coloured in light brown; fields with surfaces coloured in green; rivers in blue lines. Write the names of the rivers with small letters, tilted to the left. Draw simple, bold, clear lines. Write big letters draw bold lines and leave enough distance between the letters. Colours should be intense and contrastive. The scheme should be ordered, clean, and with no spots appeared after erasing. Give a title to your scheme, elaborate a legend and specify the direction of north with an arrow. This specification should not be made if the direction of the north is the same with the top of the paper.

This task is more difficult than the previous one. Students should identify landforms and rivers in order to represent them on the scheme. As they receive information about the representation modality it is clear that they have not elaborated such schemes before, with teacher's guidance.

- How many times is Mont Blanc Peak from the Alps, higher than the highest peak in the Carpathians of Romania (... it is about two times higher than Moldoveanu Peak that has 2,544 m.) (comparison)

- Look at the map. Which is the maximum altitude for each mountain in France? (... m in the ... Peak in the Pyrenees; ... m in the ... Peak in the Jura; ... m in the ... Peak in the Vosges) (identification)

- Why are some mountains higher and others are lower? (*Hypotheses:* the Pyrenees, the Alps, and the Jura are young mountains, while the Vosges are "older" and more eroded.) (interpretation)

- What are the consequences of the highest altitudes of the mountains of France? (*Hypotheses:* ... glaciers appear at over 3,000 m, one may do winter sports, vegetation and soil appear on different levels, having different features, diverse fauna, temperature inversions, difficult transports, underground resources, heavy rainfall and lower temperature as altitude increases, etc.) (interpretation)

- Which is the average altitude of the relief? (...) (assessment - estimation)

- On what direction are the mountainous units of France oriented? (They are oriented on the north-south direction.) (analysis)

- What are the effects of this orientation of the mountains of France? (*Hypotheses:* The mountains oriented on a north-south direction are an obstacle to air masses moving from the Atlantic Ocean to the east of Europe and that is why their western slopes get more rainfall than the eastern ones. Mountains make transports on railways and roads more difficult between France and its neighbours in the east: Italy, Switzerland, Germany, etc.) (interpretation)

- What is the effect of the Alps being situated in the temperate zone and having more than 3,000 m? (*If* the Alps lie in the temperate zone and *if* they have more than 3,000 m, *then* it is possible for mountain glaciers to appear.)

- What volcanic mountains have you identified on the map of France? (... The Central Massif.) (identification)

- What are the effects that the volcanic mountains determine? (*Hypotheses:* ... the existence of mineral waters, of peculiar landscape.) (interpretation)

- Which are the main tablelands of France? (... the Ardennes Tableland.) (identification)

- In what part of France does the Ardennes Tableland lie? (... in the north-east.) (analysis)

- What is the importance of the Ardennes Tableland extension? (*Hypothesis:* ... not really great because its surface is small.) (interpretation)

- What is the importance of the Ardennes Tableland? (*Hypothesis*: ... the connection to Germany is easier than to Italy and Switzerland.) (interpretation) (Dulamă, 2006)

Operational objective: at the end of this learning sequence students will be able to characterise the surface waters of France while guided by teacher's questions

- Which are the rivers of France? (... the Loire, the Seine, the Garonne, the Rhone, and the Rhine.) (identification)
- Where does the Loire spring from? (the Loire springs from the Cévennes Mountains.) (identification)
- Which towns does the Loire cross? (the Loire flows through Vichy, Nevers, Gien, Orléans, Blois, Tours, Saumur, Angers, and Nantes.)
- In what sea or ocean does the Loire flow? (Loire flows in the Atlantic Ocean.)
- What type of river mouth does the Loire have? (Loire forms an estuary.)
- Why does the Loire form an estuary? (... water goes up the river during tides and erodes its banks.)
- Rivers flowing in the Atlantic Ocean form estuaries, and the ones flowing in the Mediterranean Sea form deltas. Why? (... in the Atlantic Ocean the tide has high amplitude and in the Mediterranean Sea a small one.)
- What is the importance of the Loire? (... for sailing, for water supply in the urban areas, for irrigation, etc.)
- What are the features of the hydrographical network of France? (... high density, big flows because of the large quantities of rainfall, etc.)
- What consequences have these characteristics of the hydrographical network on the other environmental components? (... rivers and big rivers may be sailed on because of large flows) (Dulamă, 2006).

Guiding students step by step in order to get the expected information is to be done from the start by asking questions, and then, after learning the algorithm, they will characterise the hydrographical network by themselves.

One may notice that in order for students to learn to analyse and interpret relief and the hydrographical network of a country, teachers offered an analysis model and observed a clear knowledge algorithm. The teacher asked questions in a certain order to ensure coherence of achieving knowledge about relief and rivers: 1) which is the dominant landform; 2) which are the main landforms; 3) which is the position of each landform inside the country, which is its maximum altitude, which are the consequences and their significance; 4) the names of rivers, the landform they spring from, the cities they cross, the place where they flow into another hydrographical unit, the form of the river mouth, and importance. Part of the teacher's questions placed the process of knowledge achievement on the level of identifying elements, of identifying their characteristics, and of the relationships among them, and another part placed it on the level of interpreting the identified elements. After students know the algorithm characteristics of identifying the

features of the landforms and hydrographical network of a continent, region, or of a country, they no longer need guidance through questions. They may get tasks in order to solve them individually.

Example 1. Task: Look at the map and complete the following text:

"In western France the following fields lie from the north to the south: the ... (Parisian Basin), the ... (Loire Field), and the ... (Aquitaine Basin). In the centre of the country lies the ... (Central) Basin. There are young mountains in the south and in the east: the ... (Pyrenees), the ... (Alps), and the ... (Jura). In the east and north-east of France the relief is an old, eroded one, represented by the ... (Vosges) and the ... (Ardennes) Tableland" (Dulamă, 2006).

Example 2. Task: Analyse individually the relief and the rivers of France and complete the table on the blackboard.

Table 6. Landforms and rivers (a) (Dulamă, 2006)

Landforms	Mountains	
	Tablelands	
	Fields	
Rivers		

Landforms and rivers (b)

Mountains	Tablelands	Fields	Rivers

In order to complete the gaps or the tables, students identify the names of rivers, of landforms and the categories they are included in.

Example 3.

Operational objective: during this learning sequence students will be able to analyse a river using an algorithm and a map

Task: Analyse the Seine using the map and complete the information in the following table.

Table 7. The Seine

No.	Analysed aspects	Answers
1	The landform it springs from	
2	Major landforms it crosses	
3	Main tributaries	
4	Main cities it crosses	
5	Form of the river mouth	
6	Sea/ocean it flows into	
7	Length	

MOTIVATION AND COMMUNICATION. NEW PERSPECTIVES

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Abstract

The connection between motivation and communication is one extremely fertile in educational process. The teacher must know how to use different types of motivation: motivation of power, affiliation, curiosity, approval etc. On the other angle, for an efficient educational process the teacher must know understand and he (she) must know find solutions regarding different psychological defense mechanisms which pupils/students try at school. The link between motivation and communication is required to be explored from multiples points of views.

Key words:- types of motivation, psychological defenses mechanisms, motivation of power, the need of affiliation, the need to know (curiosity), the need of acceptance/approval, the compensation method, conversion, the displacement, the refuge (hideaway) in reverie, the projection, the rationalization

Sometimes, the relationship between the motivation and the communication can create barriers of communication. Thus, from the multitude types of the motivation which can animate the pupil; if the teaching staff choose to stimulate only one of these (types of motivation), apart from the other types of motivation, the results about the process of communication between teacher and pupil would be negative.

For instance, in the traditional school, the priority is put on the encouragement and the development of a certain type of motivation – *the motivation of the accomplishment / achievement*. Those, whom are motivated by this need, try to achieve the highest standards of excellence / virtuousness. Regardless if there is or is not recognition, praise, money, the need is, strongly, sustained intrinsic; it acts “with the whole force” for the best results. According to Weiner (apud Bower, Bootzin, Zajonc, 1987), by the accomplished researches, in the daily life, those with a motivation of higher accomplishment / achievement, they tend to follow the more challenging, the complex enough career but not so quite difficult (career) in order to have success.

The person with the little motivation of *accomplishment / achievement* choose either the extremely easy tasks with a certain success (even if there is a little reward) or the extremely difficult tasks related to which they cannot be guilty of their failure.

Example 7

Operational objective: during this learning sequence students will be able to elaborate a text on the landforms of France observing certain requirements and the map in the textbook.

Look at *the Physical map of Europe*. Identify on the map and then write a text pointing out: a) the mountains, the tablelands, and the fields of France; b) their geographical position and extension; c) their maximum altitude; d) variety of landforms; e) deduce the relationships between landforms and other environmental components (climate, hydrographical network, vegetation, fauna, soils, agriculture, transports, industry, tourism, etc.) and present them in a text.

This task requires a superior knowledge level, namely the synthesis. So that students elaborate a scientifically correct text, they should have been involved into knowledge situations similar to the ones presented earlier, they should be aware of analysis models for landforms and for the relationships between environmental components.

Example 8

Operational objective: during this learning sequence students will be able to answer questions about France in the study guide

Task: Answer to questions about France in the study guide. Five minutes.

Questions	Answers
1. Which are the mountains of France?	
2. Which are the tablelands of France?	
3. Which are the most important fields of France?	
4. What is the influence of the mountains of France upon the other environmental components?	
5. What is the influence of the tablelands of France upon the other environmental components?	
6. What is the influence of the fields of France upon the other environmental components?	

Example 9

Operational objective: during this learning sequence students will be able to formulate five analysis questions and five interpretation ones for the landforms and for the hydrographical network of France.

Task: Formulate five analysis questions and five interpretation ones for the landforms and for the hydrographical network of France using the map in the textbook. Five minutes.

So that students are able to formulate analysis and interpretation questions, they should already have the competences of analysing and interpreting a map at a certain competence level.

Example 10

Operational objective: during this learning sequence students will be able to deduce some of the consequences of global warming upon the shores of France and upon the mountain glaciers in this country, using a map.

Task: Work individually for five minutes. Because the quantity of carbon dioxide increases as well as other greenhouse gases in the atmosphere, the average temperature of the air has increased with 0.6°C recently. They say that because of atmospheric warming, mountain glaciers and the ice caps will progressively melt in the next hundred years. a) Analyse the shores of France using a map and describe the effects of global warming upon them. b) Analyse the extension of mountain glaciers in the Alps and describe the effects of global warming upon them.

This task is a very difficult one and requires students to be at a high knowledge level. So that students solve this task, they should be able to deduce some of the consequences of certain phenomena and to anticipate their production in a concrete way in certain places, they should be able to do a prognosis taking into account certain aspects that they identified during the analysis phase. Their final product should be both a text and a map where they represent the surfaces that the ocean might cover and the smaller surface of mountain glaciers.

Conclusions

We started our research from constructivism, radical constructivism, cognitive constructivism, and from the social one. We researched on how knowing reality is planned and organised during *Regional Geography* classes starting from the behaviourist theory, from radical constructivism, and from cognitive constructivism. During our research we tried to find the answer to the following question: if the subject to be known is France, how could students know the reality of this country, during an experiential learning situation, according to the theories of radical and cognitive constructivism? In order to answer to this question, we oriented our research on two directions: a) exemplifying and analysing traditional learning situations, based on achieving knowledge through observation, receiving, and memorising, according to moderate constructivism; b) exemplifying and analysing learning situations organised according to cognitive constructivism.

1) After analysing the exemplified learning situations we drew the conclusion that taking into account the features of each learning situation, students find themselves on different knowledge levels: the level of identifying elements from reality or from its representation; the level of analysing the identified elements; the level of interpreting the identified elements; the level of restructuring the identified elements.

2) The second significant conclusion of our study is that each student might get involved adequately in a learning situation constructed according to the principles of radical or of cognitive constructivism if he or she was previously involved in learning situations where the teacher helped in achieving knowledge models.

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other example is frequent in our daily experience: you've just been criticized by the principal of the school and you couldn't reply anything for fear of the next repercussion; you will return at home, and your partner of life (wife or husband) either your children will become "the object" of your anger at the smallest mistake (many times, he/she has the kind of reactions, like "but what have I done?") because your reaction is exaggerated; in essence of this problem – you have transferred the anger from one person – the principal of school – to another person – your partner of life. There is frequent the situations of carrying out the conflict from home to the school and to bring the conflict from the school (either tension either the stress, induced by the didactical activities with pupils) at home.

- 4) **The refuge (hideaway) in reverie:** it manifests through different forms of the imaginary activities, providing with a possibility of getaway (getting away) from the reality and giving easy satisfaction to the person (Luthans, 1985, pp. 387-390); this fact not only that it doesn't offer a solution to the conflict, but also it makes harder the possibility of appearance the solution through working-out of a second plan by which the conflict is solved just as it has wanted only one of the parts. The phantasm-ing might be achieved in two directions – « the conquering hero » and « the suffering hero » (Coleman, Glaros, 1983). In the first case, the person could be seen (on) itself like a big athlete, a famous soldier, a very rich person etc. in any case, a person whom makes a big thing and, for that it gains the admiration and the respect of everyone. In the case of "the suffering hero", the person imagine itself like suffering from a terrible handicap; the rest of the world finding out about the difficulties that you have them, surrounds you, the respect of the person whom faces out, with courage, a such fate. An example of phantasm-ing – that we meet frequently – is that of a pupil who is beaten by an elder pupil, every day at school. Our pupil is taking refuge in the reverie where it imagines itself that it is strong, powerful and it can beat the elder pupil. At the end, what is the conclusion of this example? The next day, at school, the elder pupil will beat him again!
- 5) **Projection** is manifesting through the protection of the individual itself from being conscious of undesirable or unacceptable features, referable to him / her by the others; an example it might be the situation in which a pupil / a student attribute to others a responsibility of a conflict, not admitting his own behaviors which have been in the situation (in order) to generate a certain proportion of this conflict; thus, in the projection, the person doesn't realize that certain desires are personal and it ascribes to other persons; "Hate you" will become suchlike: "He in fact hate me". In this mode, his own hatred will become justified on the basis of the feelings ascribable to others. The examples of projections are multiple: thus, for a child with too many brothers which "puts / lays the blame" of each time (unconsciously), on the one or the other among his brothers (he is never guilty) – the mother reproaches that he was bad with his brother, but he justifies (thinking / believing, sincerely, what he says) as, on the contrary, his brother was bad with him (which it doesn't represent the reality). In psychology of the

Starting from a such image about the pupils, it goes without saying why the school has favored this type of motivation (encouraging on the pupils whom were activated by such motives), neglecting the fact that a part of the pupils are motivated by the same needs, so existing many else motivations:

- **Motivation of power** (by which the individuals that have needed to dominate on the others; they feel the need to subdue under their control on the others around them. The need of power can be defined, also, like "the need to get recognition, influence or control upon the other persons or upon some groups" (Morris, 1990, p. 428)). It is obvious that the pupils whom have such of the internal ability, they will make significant efforts when it is given to them the position of the leader inside the group.
- **The need of affiliation** represents the need to maintain the social relations with other persons. Thus, Stanley Schachter (apud Baron, Kerr, 2003) noticed that, after a period of the longer isolation, the individuals have, frequently, experienced an unexplainable anxiety. According to Crouse și Mehrabian (apud Carlson, 1993) the individuals whom they have such need of strong affiliation tend to try more to meet other persons and to establish many relations of friendship with these. Likewise, these persons see the social abilities as being important ones and tend to become anxious when they find out in the situation in order that other person to evaluate their abilities. The pupils who demonstrates a stronger need of affiliation, they will be more motivated by the team-work inside the group than by the solitary aspects.
- **The need to know (the curiosity)** finds out the solution through the activity of scientific exploration (the curiosity seemed as it is a native need, unframed in the category of the intrinsic motives). It is a type of motivation, used in the scholastic plan, still not stimulated long enough (although, thinking the dynamic of the lessons through the motivation of knowing, the involvement of the pupils would be more profound and more longer time). Berlyne (apud Coon, 1983) have made the next experiment: he has presented to some children a numerous drawings of different complexity; the children have spent much more time in studying the more complex drawings in comparison with the simpler one. Otherwise, this phenomenon is present in your daily life: You haven't happened, so many times, to stay until later in the night at the television in order to watch a movie (either to read an interesting book, at the same late hour) only to see « how it's end », have you? In that moment, you had been stimulated by the motivation for curiosity. Many teachers have although misunderstood as this need to know – by stimulated directly and immediately with simple presentation of the information from the handbook, in front of the pupils ; well, far away from being sufficient, this fact have been harmful for learning sometimes; in lack of those components which might challenge, stimulate the curiosity of the pupils / students.
- **The need of acceptance / approval** - it represents, at her turn, a constant of our life. R. Harre (apud Hayes, Orrel, 2003) sustains that one of these basic reasons for

the social behavior is the social respect. Precisely, nobody would like to be seen negative by the others (especially, the persons whom it matters for him). Think at the next hypostasis: you have taken a thing which you like it very much (an article of clothing), but nobody, absolute nobody considers that it fits you properly on you. How long will you be delighted with the respective acquisition? The social *acceptance / approval* acts very strong, it being represented on behalf of an important prize «in the didactical arsenal»: through its approval or disapproval, the teaching stuff has at his disposal the one of the most significant instrument of the development of the pupil's personality. Many times, just as we will notice next about the feedback, this reaction is missing or it is feeble and late. There is a scholastic practice conformed to which a pupil has been – usually – paid attention immediately and even punished for a minor violation of the scholastic rule (he / she hasn't done the homework), but he / she doesn't receive a positives feed-back in the case in which he / she has made the homework (because the teacher consider as the fact is normal and it shouldn't be rewarded). This fact is a terrible mistake, we all have a strong need of approval / acceptance and that is so much important for the scholastic practice.

We have above mentioned only a few of the most important motivations. Their list is far from stopping right here. It is worthy of keeping in mind that the teacher have to learn of using a fan of extravagantly varied tint, “pedaling upon the one and the same motivation, getting to success only for little proportion among the pupils.

An interesting experiment in order to demonstrate this difference of the reactions in the case of the two types of motivation (the motivation of achievement/ accomplishment and the motivation of affiliation) had been realized by Elisabeth French and cited apud E. Murray. French chose the persons with a big need of affiliation and a big need of achievement. Then the author reunited them into the groups of four persons per each one's – a half of these groups has been composed of the persons with a big orientation towards the achievement and the other half has been composed of the persons with big orientation towards the affiliation. The pupils / students have to do a task; the researcher acting differently against one of the two groups: to someone(s) among the pupils / students it were given a feed-back related to the task (towards the half of the groups focused on the performance and towards the half of the groups focused on the affiliation) and, also, to the other half of the groups focused on the performance and to the other half of the groups focused on the affiliation, it were given the “affective” feed-back – the given “information / data” were related to how much (of) well / good / right – properly did they work together; in what kind of consonant / harmonious it was the climate from the group; how much (of) well did they encourage all the members of the group to participate to the task. Finally, were evaluated the results of each group and according to the results:

- the groups with the persons who have a higher need of achievement performed better when they got the feed-back related to the task / performance;

- the groups with the persons who have a higher need of affiliation managed very efficient rather when they got the feed-back related to the team-work than when they got the feedback related to the performance – the information concerning the task were any less motivated / stimulated in these groups;
- the whole climate in the groups was different – in the groups focused on the task – it was very tense; it was arguing vehemently and in the groups focused on the affiliation – the climate was friendly, calm, easily, self-controlled, less intense, showing interest for the members of the groups.

Psychological defense mechanisms – permanent source of barriers in the communication

Sometimes, the communication induce a number of tensions and the teaching stuff or the pupils act in the wrong way in order to remove the frustration, the tension induced in those moment. Thus, they choose to appeal to certain mechanisms of protection (see also the researches of Freud); through such reactions they get apparently rid of the stress, induced by the confliction state, the problem remaining unsolved (Luthans, 1985, pp. 387-390); metaphorically, we might say that they are defending themselves when they are not attacked. From the multitude of the mechanisms of protection we will relieve the most frequent used in the instructional and educational activities:

- 1) **the compensation method (counterpoise)** represents “the counteraction (counterpoise) of a real and imaginary weakness through the emphasis of some desirable features either the exhibition (manifestation) of some highest behaviors of excellence in other professional fields” (Coon, 1983, p. 318); through this mechanism of protection, “the person replaces a intolerable, insupportable feeling (inferiority, culpability) with other feeling (superiority, praise ...) developed by other situations, unconscious or subliminal provoked occasions” (Mucchelli, 1981, p. 52).
- 2) **Conversion** manifests itself through the emotional conflicts, being given expression to the body language; thus, even if some pupils / students into a group don't externalize by word a conflict which they have with the rest of the group's members, the nonverbal reactions of closing, aggressive position etc., it can deteriorate the climate of the team-work in the respective group without as this conflict might be solved.
- 3) **The displacement** (the substitution): it assumes the unconscious (subliminal) process of transferring an emotion from the object (or situation) of which is, indeed, related to it, to another object (or situation) which will cause a lesser sufferance (Gelder, Gath, Mayou, 1994, p. 27). Luthans (1985) is referring to this mechanism from the perspective view of a confliction situation and he is focusing on the reorientation of the suppressed emotions towards the persons, the ideas or the objects, the others than those which make the objective of the initial sources of conflict; this situation is frequent in the school, when a pupil / a student whom finds (out) into a confliction disposal with a member of the group, he (the pupil / student) will enlarge this confliction disposal towards other members wherewith (with whom) he is not in the contradiction. An

In the kindergartens, function of the theories of learning, there are well known and perceived various types of learning: structural learning (J. Bruner), programmed learning (B.F. Skinner), deductive learning (D. Ausubel), and group based classroom learning (J.B. Carrol). R. Gagne's concept is also operational even more when considering it speaking:

- learning of signals;
- stimulus-response learning;
- (motor and verbal) chain;
- discriminatory learning;
- notions learning;
- rule learning;
- problem solving.

In this large diversity, the difficulties derived from the impossibility of solving some of the tasks received or the partial or defective solutioning of tasks (all included under the generic name of "preschool difficulties" here and symbolized by the acronym DP) represent manifestations of the deformation of the learning process; they reflect not only the distortion of the activity, but also of the entire educational system in the kindergarten.

The causes of such perturbations can be related to personal, school, family and/or social level. A more exact analysis requires a discriminatory anamnesis that could generate a very accurate etiology. After that, the concern in the specificity of the personality of preschoolers exhibiting DP with respect to the design, development and assessment of micro group or even personalised activity is another facet.

II. Preschoolers exhibiting DP

1. Characteristics of the preschoolers personality

What differentiates all DP children from their group mates is the unique feature of their deficiency. Similar data can be obtained by comparing normal children in mass education with CES mates. If it is true that CES pupils can be grouped according to their common features, based on CES, then it is also true that individual cases cannot be perfectly included in one category or class. For instance, the children with mental disorder have different intellectual skills, the hearing impaired children present various forms of disability, and this is also valid for the visually or hearing or mentally impaired children who do not have the same aptitudes and CES. Moreover, the differences usually remarked with the majority of CES cases are so large that no strict criteria for each type of „classical” difficulty can be established.

Here is a list of characteristics of DP preschoolers:

- they often lack the "maturity" typical of the biological age and their behaviour is exaggeratedly egocentric;
- they are often afraid of the kindergarten, though peers can help them overcome this fear;
- it is possible that they understand the information in the educational programs,

conflicts, this mechanism is known as the reflection in the mirror, a person whom it finds out in the conflicts with an other person, it can ascribed this own antipathy and hostility to other person and, thus, his own feelings of antipathy and hostility become easier to support/to tolerate (the other is intolerant and doesn't want to solve the conflict; we are tolerant and open-minded – only that, also, the other person, about whom we infer such feelings, he / she will think the same thing like us).

- 6) **The rationalization** concerns the unconscious verbalization and thinking of a false explications, but acceptable, for an behavior which it has an other origins, but difficult to accept (Gelder, Gath, Mayou, 1994); Coon expresses very direct this idea: « then when the given explanations are reasonable, rational and convincing but false – we says that the respective person is using rationalization » (Coon, 1983, p. 319). Also, the rationalization represents the justifications (argumentations) of the undesirable or unsubstantial behavior, of a faith, of the positions and the motivations through the assurance of acceptable explanations from them (Luthans, 1985); rationalizations have usually constitute a dialogue with this own person, but not lesser time, these justifications have also « given » to others by the person who it rationalizes in order to indicate the justice/correctness of a wrong (abnormal) behavioral reaction. For instance, Coleman and Glaros (1983) notice as if we want rather to go a movie than to stay and to study for an important exam, we might find many justifications for the wrong behavior: we don't live more than once, however, after this moment of relaxation, we will think much better. Also a rationalization, we find out to the cruel parent when beats the child, he (the parent) will declare as the respective behavior is "for the child's good" because the child will grow up "more tempered" and it will face easily the reality. Not lesser time, we have the person who it uses this mechanism of protection, the person seems to "be caught" in a set of rationalizations. Asked why he didn't accomplish the theme for paper, a student told us: I wanted to chose the theme for the paper but a classmate had been taking the list because I didn't find it (the list) when I arrived at home. The next day, I borrowed a list from somebody else, but I didn't retrieved / find again none of the themes, however, after a day of reflecting, because the paper was on the duty / obligation, I was choosing one but, in the library, all the revised / read books didn't seem relevant for the selected theme etc. For Coon (1983), Coleman and Glaros (1983), two modalities of rationalization have, frequently, used: *the sour grapes and the sweet lemons*. A proverb told us that the grapes at / to which you doesn't reach; they (the grapes) are sour. Similarly, a person whom uses this type of rationalization, it (the person) does make the objectives on which he / she cannot get / achieve (in order) to seem the lesser agreeable / attractive. The "sweet lemons" is other strategy of rationalization, actually, in the contrary of the sour grapes. By this time, we will self-convince that a trouble or unpleasant situation is in fact ... nice.

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PRESCHOOLERS AND DIFFICULTIES IN FULFILLING TEACHING TASKS

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Zusammenfassung

Der Versuch einer deutlichen Gestaltung des aktuellen Vorschulpädagogik Bereiches, bedeutet die Überprüfung einiger Schlüsselsyntagmen, innerhalb dessen sich implizite auch die Schwierigkeiten des Vorschülers in der Durchführung einiger pädagogischen Aufgaben einordnen.

Auf Grund der Aktivitäten die hauptsächlich auf das Spielen und nicht auf das Lernen basieren, bemerken die Spezialisten die Keimen der Lernschwierigkeiten, obwohl im Vorschulalter noch nicht von Aufspürung der Lernschwierigkeiten die Rede sein kann.

Die rechtzeitige Identifizierung ist für die Unterstützung der Wiedergewinnungsprogramme sehr hilfreich.

Schlüsselwörter und Schlüsselsyntagmen: Schwierigkeiten des Vorschülers, Wiedergewinnungsprogramme, personalisierte Tätigkeiten, Aufspürung der Fälle, Mangeln.

I. Preamble

The attempt of clearly configurating the field of Preschool Pedagogy requires today the revision of some key-sintagms where implicitly the difficulties encountered by preschoolers to fulfill teaching tasks will always be found.

In the context of activities dominated by play and not by learning, the experts in this field find the roots of difficulties in learning, though these difficulties are not named exactly with these terms. The early identification of such difficulties would be a support for the recuperation programs and very significant for the child development.

Therefore, according to the already known definitions, the issue of school education and learning (as a kind of human learning) at this level too can be regarded from various points of view:

- physiologically, after the formation of conditioned reflexes and dynamic stereotype, of the interneuronal connections etc.;
- psychologically, as a modification/acquisition of behaviour in a systematic, established and observable manner;
- pedagogically/educationally, as the organization of learning of values and their conversion into intellectual operations, skills, attitudes and motivational and emotional structures.

III. Forms in which DP is manifested

1. The cognitive field

In the preschool education, there are manifestations of the psychical activity that act as blocking factors and, if collected together, as slight mental retard situations (mental deficit). These manifestations are evident in the sphere of perception, representation, attention, thought, language, memory and imagination.

We will make an analysis of all of these, starting with deficiencies manifested in preschooler perception.

***Reduced perceptive experience** – this manifestation occurs because the children's perceptions are not based upon many representations. The main aspects of some of the things are masked by secondary traits. These deficiencies can be accompanied by other forms of evidence, such as:

- analysis or low discriminatory acuity;
- low observation spirit;
- low selective capacity;

* **Limits of thinking**

The preschoolers have difficulties in understanding and explaining the phenomena. The understanding difficulties are directly proportional to the distance to the inventory of knowledge a child possesses and the character of the new information he has to explain empirically or theoretically.

* **Perceptive instability**

Large variations in memory span are visible with preschoolers. During activities, the preschooler is attracted by external events and rarely enters in contact with the topic proposed in an organized manner, retains only separate parts of that topic and cannot focus upon the activity and knowledge universe in connection with the aim of the former.

N. D. Levitov distinguished between the following forms of lack of attention, namely:

- lack of attention produced by too intense focus upon only one object, that prevents another perception;
- lack of attention produced by lack of concentration;
- lack of attention towards a specific kind of occupation;
- lack of attention towards any occupation.

* **Poor verbal skills**

During school learning, a set of dysfunctions blocking learning can interfere. These dysfunctions, if stronger, can take the following forms:

- dislalia
- stammering
- delays in general speech development
- elective mutism.

* **Speech disagreement** – this function is generated by more factors and the manifestation lies in lack of agreement between content and meaning, what is printed in the child's mind and what is turned into actual meaning.

but they cannot answer questions, they understand, but they cannot express in their own words what they understood;

- sometimes the tasks overwhelm them, they say that they can solve the tasks but, in fact, they actually cannot solve it or give up doing the job during the resolute development process.

2. Detecting DP cases

There are two main orientations or criteria that can help detecting DP cases.

The first is the *criterion of exclusion*. With this criterion, one can determine whether a preschooler presents a certain difficulty or whether his/her difficulties are linked to a certain disorder or illness (for instance, a slow understanding of verbal messages and/or an auditory or affective deficiency etc.).

One of the drawbacks of this method lies in that learning difficulties do not always have well defined causes. For instance, some of the children may present the symptoms of a behaviour showing affective disorders (agitation, impulsiveness etc.); or the same symptoms describe a certain learning difficulty called by the Association of the American Psychiatrists "Attention Deficit Hyperactivity Disorder" (ADHD).

A common characteristic is the gap between skills and their achievement. For instance, a child can have higher aptitudes at the level of the spoken language, but serious deficiencies in the graphical language. This *difference* constitutes the second traditional criterion in the detection of learning difficulties. In general, this deviation is taken into account to establish the preschooler profile such as the main differences between DP children and children with other problems. For instance, the children with mental deficiencies generally present low aptitudes in all fields of activity, while DP children have low aptitudes in only some of the fields.

If a child corresponds to these two general criteria, the specialist has to investigate even deeper the learning difficulties of the child and to define the modifications to be made to the educational program, to personalize the education to that child requirements.

3. DP psycho pedagogical and educational landmarks

a) Here is a list of general characteristics that can show a difficulty in learning:

- hyperactivity;
- incapacity to be attentive;
- confused orientation in time and space;
- incapacity of following oral indications;
- uncontrollable sweet tooth;
- hypoglycemia;
- poor catching of a ball and poor hitting of that ball by foot;
- slow and poor buttoning;
- slow and poor shoe lace tying;
- pencil kept defectively in hand;
- bad gait;

- not jumping;
 - exaggerated awkwardness;
 - frequent failure in fulfilling tasks;
 - difficulty in keeping upright in one leg;
 - difficulty in keeping riding a bicycle or going along a straight line.
- b) Characteristics that can show visual difficulties in pupils:
- head too bent;
 - visual pressure, strabismus, symptoms, often blinks, often rubbing eyes, bent too near to paper when colouring or painting etc.
- c) Symptoms of affective or behavioural disorders:
- wrong self image;
 - coleric or hostile spasms;
 - excessive impulsiveness;
 - too introvert or confused.
- d) Social order aspects can be linked to these difficulties, such as:
- tendency of playing with younger children, from other kindergarten groups;
 - difficulty in establishing good rapport with group peers;
 - new and unknown social situations are avoided.
- According to the aforementioned, when a child does not have all the characteristics listed above, then that child will not strictly be labelled as DP. A more accurate evaluation will be necessary according to the preschooler personality. The picture gives the image of what the child should know and what he actually knows to do, namely:
- can tie laces;
 - puts on cloths alone/helped when leaving home or leaving to play in the courtyard;
 - can scribble by pencil between parallel lines;
 - catches or throws the ball;
 - can hop;
 - writes name in capitals;
 - recognizes the letters standing for his name;
 - recognises most of the letters in the alphabet;
 - recognizes and names colours;
 - recognizes figures from 0 to 9;
 - tells his address and telephone number;
 - recognizes the left to right progression;
 - easily understands given tasks;
 - carries out an easy task and/or average task, seen from the point of difficulty.

4. DP etiology

The basic factors affecting the educational process in the kindergartens are the *personal factors*. I. Neacșu considers that irrespective of the nature of variables interacting

with the personality of the educated subject, they are manifested dependent upon a dynamic law related to the subject that is called the rate of individual development (RDI).

In this category, O. Ieniștea includes the amount and quality of sleep as an irreplaceable means for the recovery of forces that contribute substantially to improved activity efficiency as well as a non reasonable and non rhythmically supplied food that diminishes the power, capacity, leading to anxiety, discomfort and decreased learning comparability.

With respect to causes strictly related to the child, T. Rudică finds three subgroups of the kind:

- a) anatomic-physiological determinations: body malformations or sensorial deficiencies – that can give birth to inferiority complexes or strong inhibitions, diminishing the psychological and nervous energy and the intellectual potential;
- b) endogenous individual psychological factors, such as: the low level of individual memory span, child autism, hyper excitement;
- c) exogenous individual psychological factors that place the child in severe conflictual and frustrating situations that can lead to anxiety and lack of secure environment.

Among *psychological factors*, O. Ieniștea includes general intellectual capabilities, specific capabilities (in the form of obvious capabilities towards learning human knowledge), vocation, level of accumulated learning volume in previous stages of education, aspiring level for which self esteem plays an important role, own potential to fulfill the ideal proposed, experience gathered and models set and taken.

Among *school-related factors*, are included:

- the material “to be learnt”;
- the task volume (sizing/undersizing);
- no objective assessment;
- time dedicated to other compulsory;
- support to improve individual study;
- rigidity of learning pace, children with slow learning pace having DP quite often;
- exclusively frontal teaching approach;
- size of preschool group;
- group heterogeneity;
- school resource and management differentiations.

Among *family-related factors*, the family environment, relations between parents, relations with grandparents and other family members, their attitude towards the child’s learning and towards the child’s personal problems, situations or events occurring in the family can favour or unfavour the child.

The alertness state and hyperprotection given by one or both parents, diseases or deaths in the family leading to long term discomfort can also be added here.

Social factors point to the role of the social context of the education, to the value and importance given to education by state and the various institutions paying attention to integration, educational or social or school success.

- under- and overappreciation of the actual capabilities of the child;
- inter-individual conflicts inside the children group.

IV Strategies used to detect DP cases

1. The observation method

The observation method if well applied, can supply precious information about the preschooler. For its success, it is necessary to define exactly the objective of the investigation. For instance, we can observe the discipline or indiscipline acts, the right or wrong behaviour, right or wrong way of talking, if he is diligent or lazy, if he tells the truth or lies.

It is necessary to systematically observe the child to find the frequency and gravity of the facts and deeds of the child. Observation also helps to define the place of the child in the group. The observation has a higher value if events and manifestations are written down. For improved judgment, there can be better correlated, to define an overall image about a child in the group. .

2. The discussion method

Talking to preschoolers leads to collecting valuable and concrete data on the issue under investigation, to improved correlation between information, and to finding out information that otherwise could not be collected. For instance, we want to know why a child has poor results in a certain activity. The observation alone is not enough. The discussion with the child can tell if the child is healthy or ill or whether events with profound significance had upset him.

To be efficient, the discussion should anticipate the questions to be put to the child. During the discussion, other, additional questions can be formulated, as a result of the child's responses or in relation with the associated aspects arising during the meeting.

The second condition to be observed in the organisation and development of discussion is to behave like a matching soul, so that the child openly answers to questions, does not avoid giving answers, and is honest and sincere in attitude and mainly receptive to the discussion. .

3. The biographical method is not easy to use as it is time consuming and required sustained work. It implies more in-depth knowledge on the child's life as an individual. During organised talks with the child, with his parents, relatives, teachers, mates etc. An inventory of data is devised with reference to the aspect under investigation.

This inventory should contain data on the behaviour of the child in various occasions, his attitude towards the kindergarten, the teacher, and the activities proposed, towards his parents and grandparents.

To define conclusions, the data mentioned should be first selected and only those of actual importance should be preserved.

Instead of CONCLUSIONS...

DP represents a complex phenomenon, with social, psychological and pedagogical implications. They represent a point on the path of school learning, behind which complicated

* **Fantasy** – the child has the power of transforming the real into unreal and this affects negatively the learning process as it fancies the physical or affective needs possessed and distorts the attention from learning during the instinctual process.

All these coordinates of the psychic life of the child if collected together can lead to diminished intellectual powers and gradually to *mental deficiency setting*.

2. The affect field

* **Affective mobility disorders** in one of the following forms:

- affective mobility;
- affective viscosity;
- hyperemotional;
- low tolerance to frustrations.

* **Shyness** – frequently met as „a behaviour defined by lack of confidence, trust, dare, full of hesitation, fear, defensive attitude”.

* **Anxiety**

The most valuable characteristic of the anxious child lies in that that child lives any involving situation as a dangerous one and anticipates the failure of his own activity. Anxiety is the outcome of the loss of self esteem, real or anticipated, as at its basis is low evaluation of the „self”.

* **Fear of kindergarten** is the most natural and often met form of fear of separation. If time passes on, the fear of separation does not diminish, on the contrary it intensifies and becomes terror, associated with panic and turning into a normal symbolic fear called *school phobia*. The basis of it can be a too strong mother – child relationship, in which mother clings too much to the child and when the child goes to the kindergarten the dependence relationship that had played such an important role in the child development starts weakening while its maintaining will negatively influence the child development.

The child overvalues his skills, capabilities and performances, the kindergarten threatens this state and it is for this reason that the child runs to the circumstance where he could have preserved the self image amplified in an unreal manner. He finds the same situation in the mother-child relationship.

* **Nervousness**

The state of nervousness represents a way of reacting to the conditions and life and school relations of the child. It can be temporary when the fundamental balance with the external environment is not destroyed, and in case the intensity of manifestations remains moderate, it can be remedied with usual educational means.

The forms in which it is manifested are varied: irritability, fury, hostility, depression, vulnerability, eating and sleep distortions, psycho-motor instability, hysterical crises, mutism and moods.

3. The motivation field

In the motivation field, the preschoolers meet difficulties that are evident in the following:

- absence of intention of playing or learning;
- improper expectation;
- under motivation.

4. The volitional field

a) Negativism

Negativism is present in the resistance of the child to external or internal demands; the resistance can take a passive shape when the child in question is inertial and permanently rejects or opposes to any demand or can take an active form that supposes an action in opposite sense to the demand addressed to the child.

Under this name, forms of stubbornness, strong headedness, opposition, obstinacy and willfulness are also hidden.

b) Lack of perseverance

Lack of perseverance shows the incapability of the child to fight against the difficulties in front of achieving a purpose or the will of doing only things that are pleasing and to his liking.

5. The overall personality field

The study of the personality of the child, its getting known and correct appreciation from the viewpoint of the educational process requires the observation and knowledge of the formal traits and qualities, of the dynamic and energy related features (temperament) and of the socio-moral, axiological (character) and attitudinal content traits.

The setting up of the distortions in character occurs when the defense mechanisms are damaged.

In such damage, two trends are evident:

1. that of removing the inevitable (putting away unpleasant realities) by:

- isolation, a mechanism isolating facts from their emotional context; children respond to unpleasant impressions by becoming themselves unpleasant to the others;

- retroactive cancelling, consisting in negating the unpleasant, not only by forgetting altogether about it, but also by replacement of bad past with fancied versions or a behaviour indicating that such a past had never existed. A clear example can be the way preschoolers hide from the family the receiving of a black spot;

2. that of converting affects, a mechanism acting upon alarming tendencies, by displacement or deviation rendered concrete in:

* introaction – consists in taking over somebody's deeds, either from admiration or to fight against the fear inspired by that person;

* identification – *sublimation* – is the admiration for a peer able to fight against older people, an admiration that generates challenging attitude by identification;

* *reactional* forms – produce to defend the self, making a compromise between defense and aggression (the intolerable element is removed in its initial form but appears again in a disguised form).

Other classifications for the factors affecting in a negative manner the child character and generating negative:

- lack of family milieu child portrayal;

- lack of a single and accurate educational line in the family – which will cultivate a weak will, uncertainty, absence of responsibility;
- child fondling inside the family and lack of exigency to the child;
- body punishment, leading to fear and lies;
- child age specificity not observed.

Character type instability is evident in the unstopped motion and loud voice talk, answer though no question is put to him, perturbation of the silence in the group. If punished the child will be even louder.

6. The relational-educational field

a) Family factors

E. Buentello considers that “a child with behavioural disorders can be the outcome of a family that is not sufficient psychologically, morally, economically, educationally or sociologically” (1978)

In this respect, there are:

1. Deficits of family climate and of family structure

In the first group, that is the family climate, the lack of tenderness of the parents towards the child, their indifference or overprotection should be taken into analysis.

As for the family structure, a family can exhibit legal, social, moral, pedagogical lacks, related to unfaithfulness, family leaving, divorce, concubinage, death, drug abuse or the very absence of a family in the case of orphaned or abandoned children that often present obvious behavioural disorders.

2. Educational lacks

The educational mistakes of the mother during the first childhood present a great significance as they deprive the child from the balanced affection required by their development.

Then, more kinds of fathers, such as authoritative, despotic, violent, weak, incorrect, too busy can outline the personal authority. The lack of fatherly authority determines the state of insecurity and traumatic anxiety. Exaggerated authority, however, leads to opposition reactions.

Unequal attitude, parent authority on behalf of one or both parents can determine pathogenic effects. When mistakes are made in understanding, approaching and solving crises, the character difficulties set in and become the second nature of the child.

There are families where the smaller extent of educational measure provokes the grandparents' indignation, who utterly express opinions, counteract, suggest various rescue systems. Such direct interventions in the parents attributes demolish their authority, alter the position of the child versus the parents, lead to conflicts and tensions at the end of which the child will suffer.

b. School related psycho-pedagogical factors

The educational environment can sometimes present negative psycho-pedagogical features that lead to disadaptation phenomena with the preschoolers:

Rhythmic education requires synchronization. Paul Fraisse (1974) sustains that movement on a beat is a double synchronization, because the movement occurs simultaneously on the anticipated sound stimulus, and has the same period as the stimulus. Therefore, continues Fraisse, the stimulus for the motor response is not the sound signal anymore, but the temporal intervals in-between successive signals. In ontogenetic development, children as young as 3 or 4 years of age display sensory- motor synchronization abilities, fully configured.

Rhythm is given by setting the structures at isochronous intervals.

In certain conditions of successiveness, the stimuli are perceived as grouped, and the repetition of these groupings represents the basis of rhythm perception. This is, though, a subjective perception, considering that nothing in the physical characteristics of the sound signal determines the grouping phenomenon (apud Fraisse, 1974). An objective perception of rhythm occurs in two situations: when a longer periodic interval creates a pause or if and elements in the succession are accentuated. The structure of rhythm depends on the successiveness and simultaneity perception thresholds, and on the number of items in the rhythmic structure (number of items stored in short- term memory). Thus, the rhythm can be given by difference in duration and/ or order of accent in the structure.

Aspects of the relationship between rhythm, on one hand and speech perception and production, on the other

From speech therapy and linguistic perspective, rhythm is prosodic element or a supra segmental component of speech. From developmental psychology perspective, this component is considered to contribute to the facilitation of speech learning, through the value of accents signaling the division of sentences into words, the grammatical boundaries between clauses and phrases (information retrieved from pitch contour, syllable duration, pauses)(Beckman & Edwards, 1990; Price, Ostendorf, Shaltuck- Hufnagel & Fong, 1991, in Perceptual development, 1998). Nine months old babies display a tendency to respond to rhythmic features of maternal language(results obtained in studies of English language)(in Perceptual development, 1998).

In hearing impairment affects speech perception and production, as well as the perception of rhythm. Rhythm can be accessible to these children visually or through perception of vibrations.

On the other hand, rhythm plays a key role in motor coordination, which leads to completion and enrichment of visual and sound perception, ensures equilibrium, kinesthetic awareness, development of speech on mental representation of motion (Fotiadou, Tsimaras, Giagazoglou et colab., 2006).

Rhythm is directly involved in speech perception. Whether one delivers or receives speech, it requires adequate perception of rhythm. Speech represents a sequence of words in a certain order, that bears a time structure(apud Cremene, I., 1993). Speech has a rhythmic and time component considering the various lengths the words, accent positions in the word, and the syntax of the sentence. These are few reasons for training spatial- temporal structures, in the case of hearing impaired children, as a part of psycho- motor education.

and varied in nature processes lie. The fact that in equal and uniform frontal teaching/learning conditions preschoolers react differently show that behind the natural endowment of each child there are other factors that stand for diversity and mainly inequality of performances. DPs are not generated by only one cause, but by factors acting concomitantly and convergently, of complex physiological, psychological, social and educational nature that needs attentive analysis in order to define the education to be applied.

In general, teachers are prepared to cope with teaching tasks, but they are less ready to cope with the treatment and recuperation of DP children. Consequently, it is stringently necessary to organise counseling rooms, to train and use specialists in school counseling, and psycho pedagogues and to use them fruitfully by the teachers and parents alike.

It is also important that working together with the team of specialists finds out the actual causes of DP occurrence because only this is the possible way to child recuperation.

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THE EFFECTS OF A RHYTHMIC EDUCATION PROGRAM ON SPEECH CHARACTERISTICS

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Die vorliegende Studie analysiert ein heilpädagogisches Programm für Psychomotorik und Rhythmik, und dessen Wirksamkeit auf die Entwicklung der verbalen Kommunikation bei Kindern mit hochgradiger Schwerhörigkeit (Hypakusis) und Resthörigkeit. Die Minderung des Hörvermögens schädigt dem Vermögen rhythmische Strukturen widerzugeben. Der Rhythmus und die temporale Strukturierung haben besonders wichtige Komponente, sowohl bei der Wahrnehmung, als auch bei der Entstehung der Sprache. Die Programme für heilpädagogische Rhythmik, verleihen dank ihrer Kombination rhythmischer Übungen, eine Vielzahl an Übungen und Kombinationsmöglichkeiten. Die Neuheit des vorliegenden Programms sind die rhythmischen Übungen nach der Methode des phonetischen Graphismus. Diese Methode fängt von der Erziehung des körperlichen Rhythmus an, bis zur Erziehung des verbalen Rhythmus. Die Auswertung der Wirkung dieses Programms erfolgt auf mehreren Ebenen der verbalen Sprache. Die quantitativen Ergebnissen werden von einer qualitativen Auswertung ergänzt. Auf diese Weise, werden die zwischenmenschlichen Schwankungen was die Aneignung einiger Aspekte der Sprache mit Hilfe rhythmischer Elemente angeht, sichtbar. Diese werden weiterhin ermöglichen, dass eine individuell angepasste psychomotorische Annäherung entwickelt werden kann.

Schlüsselwörter: heilpädagogische Rhythmik, Schwerhörigkeit, Psychomotorik, phonetischer Graphismus, Sprachtherapie

Introduction

The concept of “psychomotricity”

The term “psychomotor” was initially used in the context of brain psychomotor areas, which were cortical regions considered to be responsible for the control of motor functions. Afterwards, the concept evolved towards two main directions: as the study of functions and disorders related to motricity and its relations to mental activity and as the corrective practice, detached from general physical education, addressing developmental delays and disorders of motor functions. Currently, the concept of “psychomotricity” covers

a wider range of domains, such as the study of motor development and subsequent construction of developmental scales, field of study of disorders in motricity, and as the study of methods applied in the education of psychomotricity (apud D. Widlocker, in Dictionary of Psychology, 1999). Another meaning of the term is attributed by a form of therapy, rising from psychoanalysis that postulates the development of psychic functions through physical interaction mediated by objects.

Once the Cartesian dualism was abandoned as a consequence of various significant scientific discoveries, leading to essential paradigmatic changes in the unitary approach of human mind and body, psychomotricity started to be shaped, first by isolated relations marked inside various approaches in human knowledge, such as neurophysiology, child psychiatry and psychoanalysis, Piagetian constructivism, German phenomenology. In late 60's, psychomotricity is first recognized as a discipline, in France.

Psychomotricity is based on the premise of harmonic integration of motor functions, cognitive and affective processes, in the context of nervous system interaction with the environment.

Psychomotricity in the education of children with disabilities

Currently, in Romania, psychomotricity education is one of the activities proposed through legislative frame in the discipline Specific therapies and activities, addressing needs of students with mild and moderate disabilities in special education or from the mainstream. This specific therapy contains activities for general psycho- motor development, sensorial education, and activities for the building and consolidation of perceptive and motor structures, such as body scheme, color, shape, spatial structure, temporal structure. The inclusion of this specific therapy in the curriculum for children with mild and severe disabilities represented a necessity imposed by the levels of psycho- motor pre- acquisitions in various competence domains. The children with disabilities demonstrated delayed levels of development or slow rates of acquisitions. From this perspective, psychomotricity can be beneficial not only for children with sensorial disabilities, but also for those with intellectual disabilities. Considering the case of hearing impaired children, with conventional prosthetics, psychomotricity will intervene in the education of hearing, speech, and writing through consolidation of body scheme, spatial and temporal structuring, and training of general and specific motor skills.

Rhythm and rhythmic education

The wide field of psychomotricity, from special education perspective, circumscribes the education of rhythm and temporal structures. Rhythmic education, per se is a branch of artistic gymnastics, inside the general field of physical education, but it is corrective, compensatory, recuperative values are getting it closer to corrective gymnastics. Fatu, Z (1969) defines rhythmic education to be the motor action which consists of commensurable movements, stressed or weak, following a precise order in succession.

Verbal breathing

inspiration	Normal	3
	Profound	2
	After each word	1
	Talking while inspiring	0
expiration	Using the correct air flow	3
	Sentences produced on a single expiration or short but correct use of air flow.	2
	Exhaling before phonation	1
	Sudden expiration and incorrect use of the air flow.	0

Speech expressiveness

accent	Adequate	2
	Partially adequate	1
	inadequate	0
rhythm	Adequate	2
	Partially adequate	1
	inadequate	0
tone	Adequate	2
	Partially adequate	1
	inadequate	0
Orthoepic rules	Adequate	2
	Partially adequate	1
	inadequate	0

Studies and research in the rhythmic education of children with hearing impairment

Fatu, Z. (1964) in the "Medical rhythmic and gymnastics", presents a model of addressing psych- motor needs through the rhythmic education of children with disabilities. The program of exercises starts from the premise that any type of movement develops in space, time and needs force. She structures the exercises on these three coordinates. Thus, she considers that in rhythm perception education one should start with forming and consolidating concepts related to space, such as body position, body segments and body as a whole, movement direction. Perception of time should be facilitated, according to her, through multi -sensory interaction of visual, hearing and kinesthetic analyzers. Temporal perception is given, in part, for a start by spontaneous body rhythms, such as walking tempo, duration of certain physical activities. The formation of proper perception of time should be based on norms given by, for instance the number of steps on a limited distance, time measuring instrument.

This collection of exercises presented in the aforementioned study is addressing the psycho- motor recuperation process of children with disabilities. It contains recommendations based on categories of disability. The goal of the program is to develop rhythm perception, and not explicitly to train rhythmic components crucial in facilitating hearing and speech.

Vinko Aldo Gladic and his team (1992)(Anca, M., 2000) have applied the phonetic grapheme method in the re- education of hearing and speech. In the centre of this method is the idea of synchronous multi- sensory stimulation, through visual, kinesthetic and auditory modalities. The program designs language exercises through phonetic grapheme means, which is evoked by the symbolic values of sounds and the dynamic features of the motor gesture of speech sounds emission. Body rhythm and verbal rhythm, as well as the rhythm of graphic representation synchronize in the motor action. This method can be applied from to perspectives: from hand movements to the movement of the entire hemi region related to them, or from voice to body movements. Among the advantages of this creative method are: the facilitation of perception and comprehension of speech, and its evoking role through facilitation of kinesthetic representation of sound production, word production, activation of certain linguistic structures, etc. (Anca, M., 2000).

Fotiadou, Tsimaras, Giagazoglou et colab. (2006) developed a rhythmic education program and measured its efficacy on the perception of rhythm of children with deafness. The program consisted of 16 weeks, three sessions per week, each of 40 minutes. In the training it was used the rhythmic gymnastics apparatus (ball, rope, ribbon, hoop) and elements of movement such as different types of walk on various tempos, hand clapping, circular body movements. For an objective measure of the level of rhythm perception, each subject had to reproduce 5 different rhythmic structures, at the same time as a metronome. Sound information analysis was done using Sound Forge 4.5 soft. After the delivery of the

program, the experimental group displayed an increased performance on the rhythmic task, in all tempos (allegro, moderato, andante). One of the limits of this study is done by including a certain age group, with a sensor neural hearing loss, which makes impossible the generalization of results to other groups of age.

METHOD

The aim of the present research paper is to investigate the effect of rhythmic education upon verbal communication development in children with severe and profound hearing loss.

Hypothesis

If the training starts from supra - segmental components of speech towards the segmental ones, the efficiency of the speech development process will increase in children with hearing loss impediment.

Subjects

In this study were included 16 student , VII th grade from The school for hearing loss children, no 1, Cluj Napoca, diagnosed with severe and profound neural sensory hearing loss, with age between 12 and 13.5, without associate deficiencies. They were organized in two groups: an experimental one, where the training was applied and a control group.

We cannot talk about group homogeneity, even if we took into consideration variables like: age, gender, intellectual level, speech developmental stage.

Were selected student with severe and profound hearing loss in order to show the effects of rhythmical training without the influence of functional hearing. We chose 7th graders in order to be sure that there is a level of speech development enough to permit the modeling of supra – segmental elements.

Procedure

We established the level of speech development using “Examination of speech in case of students with hearing loss” developed by George Bacanu. The results were registered in Speech evidence chart, which includes *voice quality* (strength, pitch, vocal print), *verbal breathing* (inspiration and expiration), *phoneme pronunciation* (faulty pronunciation due to articulation, faulty pronunciation due to resonance, pronunciation with extra sounds, pronunciation with missing sounds, articulation percentage, intelligibility speech percentage), *speech expressiveness* (accent, rhythm, tone, orthoepic rules).

The research methodology is based on dynamic experiment structure: initial evaluation, applying the training, final evaluation. During initial evaluation information was gathered through tonal audiometric measurements, psychological evaluation and personal history.

Rhythmic Education Program was applied during one semester, one weekly meeting, two hours each. Following is described the structure of one Rhythmic Education Activity:

1. organizational component
2. Breathing training
3. Global motility development. Exercises of passive and active muscle engaging.

4. Exercises for certain muscles
5. General rhythm exercises, with and without verbalization
6. rhythmical alphabet
7. rhythm exercises according with phonetic grapheme approach
8. Evaluation

Results analysis

In order to observe the efficiency of Rhythm Education Program we will compare the results from the two groups in the following way:

- Experimental group and the control group before training
- Control Group before and after training
- Experimental Group before and after training
- Experimental group with the control group after training

For a better computation and analyses of the results we assigned numerical values to the initial results in grades from 0 to 3 as follows:

Voice

strength	normal	3
	Weak or strong	2
	Very strong or very weak	1
	Silent	0
pitch	Normal	3
	Mutation or dissonant	2
	Dissonant or monophonic	1
tone	Normal	3
	Mildly nasal, hypo nasal, faucal	2
	Strongly nasal, hypo nasal, faucal	1

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Because the size of the groups was rather small, we used, in our statistical analysis, non parametrical tests. For paired groups comparisons we used Wilcoxon nonparametric test. For independent groups (experimental plus control groups pre and post test) we used Man-Whitney nonparametric test. In the following chart we present the results of the statistical analyses using the tests mentioned above.

Statistical analyses results

		pretest experimental -control group	post test experimental control	pretest post test control group	pre test post test experimental group
voice	strength	N	S **	N	S **
	pitch	N	N	N	N
	tone	N	S **	N	N
pronunciation					
	correct pronunciation	N	S *	N	S **
	faulty pronunciation due to articulation	N	N	N	N
	faulty pronunciation due to resonance	N	S **	N	S **
	adding sounds	N	S **	N	S **
	missing sounds	N	S **	N	S **
	articulation percentage	N	S *	N	S **
			S *		
	intelligibility speech percentage	N	S *	N	S **
expressiveness					
	accent	N	S *	N	S *

	rhythm	N	S *	N	S *
	orthoepic rules	N	S *	N	S *
respiration		N	S *	N	S *
	inspiration	N	S *	N	S *
	expiration	N	N	S **	S **

Legend:

N- not statistically significant

S* - statistically significant at p = 0.01

S** - statistically significant at p= 0.05

The first instance of speech recorded in the evaluation chart is *voice* with its characteristics of strength, pitch and tone. The comparisons between experimental and control groups before training in all three conditions showed the absence of statistical significant results. The comparisons between experimental and control groups after training showed statistically significant differences in the case of strength and tone, ($p = 0.05$) but not significant in the case of pitch. The same comparison in the case of the control group showed no differences in performance before and after training.

Analyzing the results of the experimental group before and after training we found a statistical significant difference in the case of strength, but not strong enough in the case of tone and pitch. Taking these results into consideration we can assume that the training has limited effects in improving voice characteristics.

In the second instance, the pronunciation we followed the same approach having in this case 6 variables: faulty pronunciation due to articulation, faulty pronunciation due to resonance, pronunciation with extra sounds, pronunciation with missing sounds, articulation percentage, intelligibility speech percentage. In the case of faulty pronunciation due to articulation we didn't find statistically significant differences in any instance of comparison (experimental, control group after or before training).

Analyzing the results of the experimental group in all other situations showed an increase in performance demonstrated by the statistically significant differences found ($p=0.05$). Also, comparing the experimental group with the control one after training showed the same difference statistically significant at $p = 0.01$. Based on these we can consider that rhythmic education is useful in increasing the performance in pronunciation with the exception of faulty pronunciation due to articulation where the training has no effect.

In the third instance analyzed, speech expressiveness we took into consideration the accent, rhythm, tone and orthoepic rules. Following the same approach of comparisons, we didn't find any significant differences in the case of the orthoepic rules.

In the case of accent, rhythm and tone before training the results showed no differences between experimental and control group, but there was an increase in performance after training in the case of experimental group, showed by the statistically significant differences found after comparisons between experimental group after and before training and experimental group and control group after training which entitle us to

conclude that the training is useful in increasing the performance in the case of accent, rhythm and tone but not in the case of orthopedic rules.

Analyzing the breathing components, we took into consideration inspiration and expiration. Statistical analyses of the results showed significant differences between experimental group after and before training and also between experimental and control group after training) $p=0.01$ in the case of inspiration. IN the case of expiration, statistical analyses showed a unique situation where we had significant difference in the case of the control group before and after training. We have the same significant difference in the case of the experimental group after rhythmic education. Comparing the experimental group and the control group after the training didn't show any significant differences between groups regarding their performance. In this particular case we cannot assume that the increase in performance is due to the training provided, but rather due to other influences.

Conclusions

The results of this research paper showed, based on the statistical analyses of the data, that the Rhythmic Education Program is efficient in improving the performances of most speech characteristics in the case of children with profound and severe hearing loss, being less efficient in the case of voice characteristics and with more effect in the case of pronunciation and expressiveness.

The four instances where we didn't find statistically significant differences were those regarding the pitch, tone, orthoepical rules and expiration's characteristics.

In a research proposed by Fotiadou, Tsimaras, Giagazoglou et colab.(2006) the effect of rhythmic education upon rhythm perception was followed. Present paper is focused on the effect of rhythmic education on speech rhythm, showing an increase in performance in this area.

The proposed program is different from those presented before and is combining the general rhythmic education and respiration exercises with exercises from phonetic grapheme approach aiming speech production in the case of a child with hearing loss, without functional hearing. Reeducation of speech starts, in this case, from supra segmental elements like rhythm towards segmental ones.

One limit of our approach is represented by method used to record different aspects of speech, which was a subjective one. This issue reduces the validity of the conclusion regarding the influence of the training upon voice characteristics, which is not a limit of the intervention itself.

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equilibrium movement when temperature changes, or when there is another pressure or concentration of species. Calculating the constant of equilibrium of the equilibrium reactions developed in homogeneous or heterogeneous systems we get specific data: the reaction speed, the concentration of species and the effective efficiency of the reaction.

The microscopic/ macroscopic duality is present also in the case of this concept with a strong interdisciplinary/ interface character, and for a correct perception of it by pupils, the teacher should achieve an appropriate structure of information at the two levels. (Chart 1)

Conceptual framework	Key –concept	Formulas of chemical equilibrium
Macroscopic vision on the chemical equilibrium	entropy free enthalpy equilibrium constant ↓	In equilibrium, values of intensive parameters are independent in time, being dependent only on external parameters. Between the system and it's background there is no material change of energy.
The microscopic vision on the chemical equilibrium (H theorem and the principle of microscopic reversibility)	the speed of reaction the activation energy	The mechanism of reaching a equilibrium in a system follows the system's tendency to attain in all it's volume a distribution of energy (and the speed of particles) named Maxwell-Boltzmann distribution, as a result of the molecules's collision course.

Chart 1. The correlation conceptual frame, key concepts and formulations

A POSSIBLE WAY TO FORM THE CHEMICAL EQUILIBRIUM CONCEPT

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Zusammenfassung

Das Konzept des Chemiegleichgewichts ist ein Konzept mit starkem interdisziplinärem Charakter und ziemlich abstrakt für das Niveau der XII. Klasse. Deshalb erscheinen in der Konzeptualisation des Konzeptes Chemiegleichgewicht eine Menge Fehler oder Ungenauheiten, die wegen der Hindernisse während der Konzeptualisation bei den Schülern auftreten.

Vorliegende Studie analysiert, durch Beispiele und entsprechende Einzelheiten, die Aspekte, die sich an diese Konzeptualisation knüpfen, sowie auch die Stützelemente wie zum Beispiel: Informationsdarstellung, Vorbegriffe, Fehler, Konzeptualisationskarte und die Entwicklung der Konzeptualisation für verschiedene psychogenetische Entwicklungsniveaus. Aufgrund dieser erwähnten Aspekte werden einige Verhaltensweisen für die Vorbeugung/Überbrückung der Hindernisse vorgeschlagen. Schlüsselwörter: Konzeptualisation, Vorbegriffe, Fehler, Konzeptualisationskarte, Hindernisse, Chemiegleichgewichts.

Introduction

The introduction of the chemical equilibrium concept, a present subject of the 12th form is a head stone for most teachers considering the entire chapter as good for exile. This is a natural attitude both pupils and teachers are to face when conceptualizing. along such a process obstacles are obvious, epistemic, ontogenetic and didactic ones.

Same obstacles, in a softer degree, are to be found at american students in chemistry (Fainzilberg, V.E., 1994) as well as romanian students.

The operational targets a professor envisages to be realized at the end of the studies concerning the “Chemical equilibrium” could be:

- to mention the properties of systems in equilibrium, providing the necessary examples;
- to mention factors influencing the chemical equilibrium, the principle and laws which govern the chemical equilibrium;
- to explain the influence of the concentration modification regarding a component of the system, pressure and temperature on the chemical equilibrium, based on Le Châtelier principle;

- to establish, based on Le Châtelier's principle, the optimum condition necessary to obtain compounds of highest effective efficiency;
- to deduce kinetically the law of mass action based on experiments to write the expression of the equilibrium constant according to the molar concentration, of the partial pressure or the molar fractions of the system's components in equilibrium and to establish relations between given reversible reactions;
- to distinguish between the given hard electrolytes and the soft ones, starting from the way of ionization of some substances and to correlate them with given values for constants of ionization;
- to deduce formulas for constants K_w , K_a , K_b , K_h , P_s , and K_i applying the law of mass action for given systems in equilibrium;
- to calculate $[H^+]$ and the pH of acid solutions, alkaline ones or salty ones using previous knowledge;
- -to apply the specific algorithms in solving qualitative and quantitative problems of chemical equilibrium.

Data base offer

As natural, there is no unique way to organize and structure knowledge in the human cognitive system. The real base of knowledge is at the crossroads the semantic networks, a proportional net, neuronal and cognitive drafts and scripts. One aspect is certain: the systematisation of knowledge from the data base allows to see their explicative and operational character as well as the realising of primar intermediate and secondary connections (Miclea, M., 1994).

Aspects already mentioned plead for the careful structure of the information offer, so that all types of association can be facilitated, especially their correct realisation. When the teacher establishes such a content and the structure of information he has to acknowledge:

- the previous knowledge – both the empirical ones (prenotion), and the scientific ones;
- the mistakes due to obstacles met by the pupils along the conceptualization.

Prenotions

Prenotions allowing the beginning of conceptualization of the chemical equilibrium concept could be:

- the balance's equilibrium;
- the dynamic equilibrium (of the pendulum, resort, float, communicative vases);
- the equilibrium in nature (the ecosystem);
- the psychological equilibrium;
- the sportish equilibrium (on bicycle, wire, rocking chair, hopscotch, etc.);
- the wheel's equilibrium;
- the physical equilibrium – change of fazes and aggregation states;
- reversible reactions.

Mistakes

Mistakes due to some obstacles mentioned by the teacher following tests or the teaching experience could be:

- it's hard for students to understand that the reversible chemical reaction happens in both directions with equal speed;
- it is difficult to explain the dynamic character of a system in equilibrium since the teacher defines the equilibrium at $T=\text{constant}$, $p=\text{constant}$ again, so pupils can hardly follow that the composition of system is constant despite the fact that reaction take place;
- pupils do not correctly apply the influence of pressure on a system in equilibrium both in liquid phase as in the solid one when they should apply it only when gases are involved with a variation of the number of mols {Yang, Z., 1993};
- pupils are in difficulty to understand that gases occupy all volume they dispose of (the total pressure is the sum of partial pressures of all gases in the given mixture);
- in the expression of the constant of equilibrium, when the reaction happens in the form of gas, students make mistakes because $[x] = \text{mol}/V$, they forget to share it to the volume;
- at the equilibrium pupils mistake fully consider $c_{\text{reactants}} = c_{\text{products}}$; -pupils accept with difficulty that equilibrium of heterogenous systems solid-gas is influenced only by the gaseous compound;
- pupils don't realize the existence of equilibrium with shape of complex combinations;
- pupils make confusions between K_c , K_a , and K_b in the equilibrium which happens in electrolytically solutions (Gordus, A. A., 1991);- pupils consider that the reverse reaction take place after the direct reaction was finished;
- pupils consider that inequable length of arrows that indique the equilibrium move is an indicator of inequable reaction speeds;
- pupils make mistakes in the graphic representation of equilibrium state (some pupils write \rightarrow , $= \leftrightarrow$);
- pupils make confusions between the number of mols and molar concentration of component system (for reversible reactions with the variation of the number of mols, this mistakes determine a wrong result).

Conceptual map

As it appears in Fig 1. (in the annexa) at the formation of the concept at least 25 notions compete as well as a principle and a law.

Analysing the schema we notice the experimental explanation of the concept of chemical equilibrium by the Le Châtelier principle and the formal explanation more exactly by the constant of equilibrium K . Le Châtelier's principle shows the direction of the

<p>concentration of the equilibrium system components</p> <p>- the calculation of the transformation efficiency of some reactant in a reversible reaction knowing K and the initial concentrations of the reactants</p> <p>-the calculation of the equilibrium constant when , at the initial moment, there is a certain quantity of reaction product.</p>	<p>molls/l (or molls)</p> <p>initial</p> <p>consumed</p> <p>formed</p> <p>at equilibrium</p> <p>The other columns of the first line are completed with the concentrations or the quantities from the reaction substances:</p> <ul style="list-style-type: none"> - we note with a letter/letters the unknown quantity/quantities, - filling the table with the known data, calculated and with the unknown quantities - writing the expression for K, - replacing the values in the expression K - making the calculations, <p>writing/ communication of the result and its interpretation when it is the case.</p>
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Chart 2. Manners for preventing/overcoming the obstacles

Conclusions

As seen above , the difficulty to formation of the concept of chemical equilibrium is directly proportional to mistakes made evident in tests and didactic experiments. These mistakes prove some epistemic obstacles, ontogenetic ones as well as teaching factors pupils face in the process.

Obstacles are generally implicit thus hard to be tracked and most often made obvious after the pupils has overcome them. That is why they are so difficult to be prevented or even overcome.

The first conceptual frame circumstantiated by the general axiom of thermodynamics allows the equilibrium to be described from a qualitative and accumulative point of view by the mediation of key concepts: entropy, free enthalpy and the equilibrium constant.

The second conceptual frame as described by the kinetic theorem of reaching the equilibrium (theorem H) and the principle of microscopic reversibility, equilibrium to be defined through key concepts: the speed of reaction and the activation energy. This conceptual frame is associated to the discontinuity of matter and energy.

A clear scientific formulation of key concepts mentioned above can prevent some difficulties of perception of the chemical equilibrium concept.

The prototype example

In the formation of the concept of chemical equilibrium, the prototype could be the reaction for the preparation of the ester, as a reaction between acetic acid and ethylic alcohol, and this reaction is in equilibrium with hydrolysis of ester. It can be followed in experiment and results are detailed in the schoolbook for the 12th form. It also has elaborated models of equilibrium (Chang, A., Larsen, R. D., 1991) for aide the pupils and students to understand this concept.

The evolution of conceptualization on levels of psychogenetic development

The concrete level in connection to the notion of "Equilibrium" starts with the 6th and 7th form in classes of physics when students become familiar to terms such as: the equilibrium of forces particularised in dynamics and the kinematics of the material punt (inertia, the fundamental principle, the principle of action and reaction)

In the 8th form classes of physics include the study of hydrokinetics and acoustics, pupils will be introduced in the notion of equilibrium linked to hydrostatic pressure, the atmospheric pressure, Pascal's law (the principle of recipient's communication) and their application in everyday life: the finger post of a cauldron's level, hydraulic closing, the finger post used in buildings, the manometer filled with fluid; They also study Arhimede's law and its application connected with:

- the body dived in liquids: the pigboat, densimeter, the floating of ships;
- the body dived in gases : aerostat (hot air balloons, sounding balloons , dirigible airship etc.).

In the 9th form pupils get familiar to themoment of force, the pageant of equilibrium in force when a material point is displaced in equable movement in a gravitation camp, or a corpus on an inclined plan without any friction, $a=0$.

In the 12th form a way to introduce the concept is an analogy with physical equilibrium followed in experiments in the process of dissolution. A subsidence reaction can also be studied and by weighing out make obvious the fact that the reaction is not total and not because on of the reactants has been exhausted but because of the chemical equilibrium.

At the level of identification, pupils will be informed that chemical reactions are some equilibrium to be displaced according to conditions performed by the leader of the experiment. At this moment examples will be brought to day proving previous chemical reactions and will be discussed following the influence of the conditions of work on the displacement of the chemical equilibrium.

The level of identification is interconnected to the one of classification discriminated by the length of arrows (symbolical key) which points to the displacement of the equilibrium – left or right or the lack of displacement. This is when an important step is made to formal levels by introducing the principle of Le Châtelier which explains in experiment the mobility of equilibrium.

The formal level of the concept of equilibrium is enriched by the law of mass action (the law of chemical equilibrium) making possible the calculation of the equilibrium's constant and the concentration of different species to equilibrium including the reaction's effective efficiency.

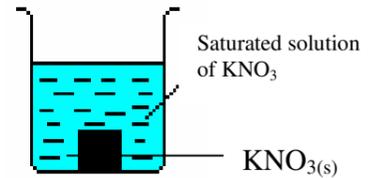
Operating the concept starts by solving the problem of chemical equilibrium. The accomplishment in forming this concept (also given the difficulties students must face) is achieved by the end of the university studies (Weltin, E., 1993).

Manners for preventing and overcoming obstacles

In chart 2 some ways to prevent and overcome obstacles are envisaged, so that pupils are able to conceptualize the concept of equilibrium.

The first two obstacles may be treated as epistemic obstacles and the third is both epistemic and didactic.

Obstacles	Manners for preventing and overcoming obstacles
Understanding the stability and mobility of the equilibrium state of a system	<p>We realize an physical or chemical experiment, for example:</p> <p>The stability</p> <p>A test tube filled with two gas resulted from the reaction of the copper with nitric acid. The test tube closed with a cork is let some moments at the room temperature. The colour off the gas mixture from the test tube has a certain intensity given by the two gases found in equilibrium state.</p> $2\text{NO}_{2(g)} \rightleftharpoons \text{N}_2\text{O}_{4(g)}$

	<p>The intensity if the colour is maintained in time, so the state of the system is stable.</p> <p><i>The mobility</i></p> <p>When we warm the mixture its colour intensifies. Bringing the test tube at the room temperature, the mixture will regain its initial colour, so the system is mobile because it comes back to the initial state</p>
The dynamism of the system found in an equilibrium state	<p>We can make a connection with a physical equilibrium</p>  <p>The temperature is constant and the mass of solid potassium nitrate remains constant, because the quantity of salt which is dissolved in a time unit is equal with the crystallized one. At a macroscopic scale we cannot observe this phenomenon. With the aid of a magnifying glass we notice the change of the solid state of the surface. So the equilibrium is dynamic.</p>
Solving some chemical equilibrium problems	Solving different types of problems using a specific algorithm at a class level:
For example: Solving the problems where it is required:	-writing the reaction equation,
-the calculation of the initial concentration of some reactant or of the reactants concentration rapport knowing K and the	-making a helping table such as:

In this article we identify other misconceptions in Geometry of primary school pupils by analyzing the children's solutions at a popular Mathematics competition.

2. The analyzed data

For this work we had the results of 3rd and 4th grade students in a very popular Mathematics competition, "Zrinyi Iona", from 1991 to 2006. This competition is organized every year for 3rd-8th grade students from Hungary, Slovakia, Croatia, Romania, and more than 10000 students from each grade participate. The number of the participating students is increasing, which shows that the competition is popular among pupils. The first level of the contest is not a competition for exceptional skilled students, the pupils participating in this competition has different Mathematics skills. They get 20 problems with different difficulty level and type of skills needed for solving them. For each problems are given five possible results, from which the students have to choose one. We have the data for each problem how many percentage of the pupils have chosen each answer possibility ((A), (B), (C), (D) or (E)). From this data we know how many percentage of the participants got the correct result, but also we can observe, which incorrect answer they have chosen, and identify error patterns in this way.

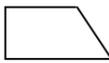
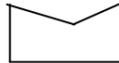
3. Analyzing pupils' results

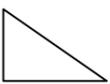
a) Recognizing geometrical shapes

First we analyze problems, where pupils have to recognize different geometrical shapes.

The following problem was given in 2003 for 4th grade pupils.

The elf's garden plan is a quadrangle, which has exactly two right angles and a pair of parallel sides. Which one can be the elf's garden plan?

(A)  (C)  (E) 

(B)  (D) 

The correct answer is (C), but only 47% of the pupils have chosen this variant. 27% of the pupils have chosen the variant (E). The polygon in (E) satisfies the criteria "has exactly two right angles and a pair of parallel sides", but it has five angles, not four. Pupils think, that an angle in a polygon should be less than 180°, so they don't count as an angle that one bigger than 180°.

The effort to prevent –surpass them is recognised in:

- redefine the actionsphere of the concept by introducing the most representative examples and counter-examples.
- the practice connected formulas to the conceptualization in different contexts (because the obstacle has a dynamic character and even if surpassed in a context it may appear in another manner).
- experiments easy to be followed because developed at a macroscopic level, but by the data resulted a lot of parameters of chemical equilibrium may be calculated which explain the progress of the phenomenon at a microscopic level, so the epistemic obstacle most frequent in chemistry, the duality microscopic-macroscopic can be solved.

Nor less is the development of the self metacognition of the teacher very important by helping pupils to associate and make analogies within notions implied in conceptualization necessary to correct understanding.

The conceptual chart operated by the teacher will allow him to identify notions which contribute to conceptualization of the chemical equilibrium, otherwise difficult to be applied in various contexts.

At the end of the study, we offer methods to prevent and overcome three main obstacles made evident to be used in other obstacles, all relies on the creativity of the teacher/professor of chemistry.

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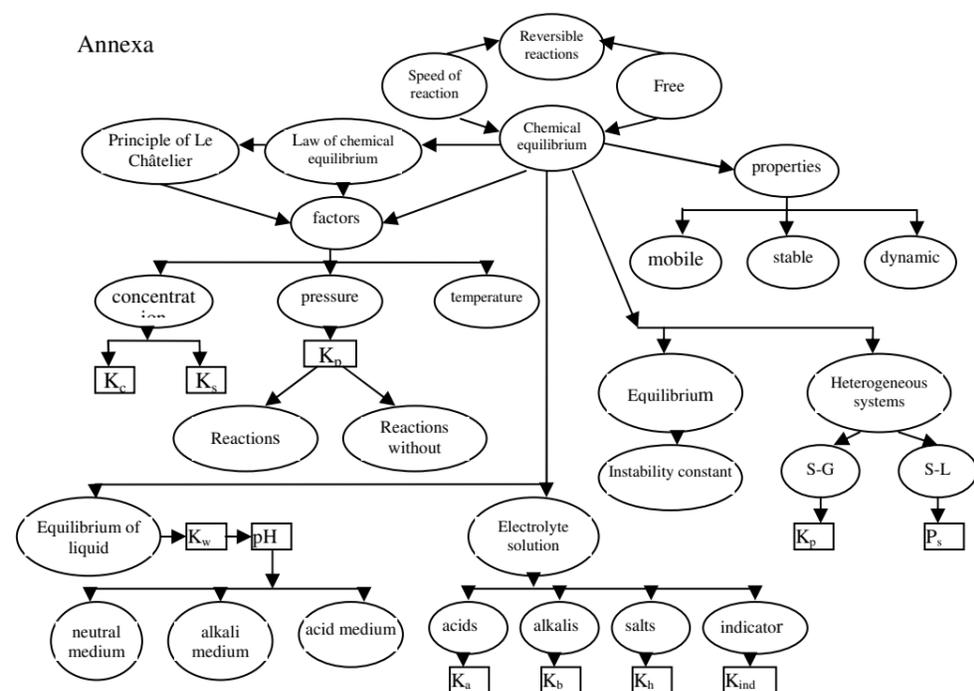


Fig. 1 Conceptual map of equilibrium concept

GEOMETRY IN PRIMARY SCHOOL MATHEMATICS

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Abstract

In diesem Artikel studieren wir das Geometriewissen, das in der Primärschule unterrichtet wird. Wir analysieren die Resultate der Primärschulepupillen auf einer populären Mathematikkonkurrenz, in der es mehr als 10000 Teilnehmer von jedem Grad jedes Jahr gibt. Wir kennzeichnen die starken und schwachen Seiten ihres Wissens und analysieren einige häufig geerschienene Störung Muster.

1. Introduction

Our society is changing quickly, so the goals in Mathematics teaching changing too. We want our students to understand and use Mathematics in a technological world. They have to learn when to use Mathematics and how to use it. In order to improve the Mathematics teaching, we need to analyze the results of the students – to use diagnostic teaching. Diagnostic teaching involves careful observation. It attempts to determine what individuals are actually learning, the way in which they understand the concepts and how they employ procedures. These observations help the teacher to improve his/her instruction. In (Marchis 2006a) we saw that 5th grade students perform much less in geometry problems; the average rate of the correct answers is about 20%. Most of the students have difficulties to see in space, to imagine the geometric shape. In (Ashlock, 2002) there are identified some misconceptions about geometrical shapes: pupils recognize a shape only if they are in a certain position (for example based on pupils opinion in Figure 1 the first polygon is a square, but the second one not; the third polygon is a triangle, but the fourth one is not); the relation between squares and rectangles may not be understood by the children (pupils think that a square is not rectangle). Another topic related with Geometry analyzed in (Ashlock, 2002) is calculating perimeter. In this case pupils use more type of incorrect algorithms, discovered by them.

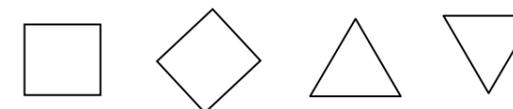


Figure 1. Polygons

Figure 5. Conceptual diagram for parallelograms

From Figure 5 we can have the following conclusions: rectangles, squares and rhombs are parallelograms; squares are rectangles; squares are rhombs.

b) Counting perimeter

Another knowledge taught in primary school is perimeter. In the following we analyze some problems, where pupils have to calculate the perimeter of some geometrical shapes.

The following problem was given in 2001 for 4th grade pupils.

Every side of the following polygons has 1 cm. Which one has the biggest perimeter?

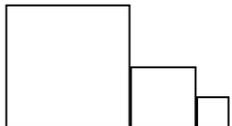
(A)  (C)  (E) 

(B)  (D) 

The correct answer is (E), and most of the pupils found this (77%).

The following problem was given in 2003 for 4th grade pupils.

Near a square we draw another square with sides half of the original square, and another square with sides half of the second square. How many centimeters is the perimeter of this polygon, if the sides of the smallest square are 1 cm long?

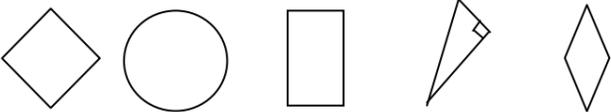


(A) 21 (B) 22 (C) 23 (D) 24 (E) 25

The correct answer is (B), and 39% of the pupils got this result. 21% of the pupils obtained for the perimeter 21 cm, so got the variant (A). They have counted the area instead of perimeter: the area of the smallest square is 1, the area of the second smallest square is 4, and the area of the biggest square is 16, adding these areas we get 21. These pupils have confused the perimeter with the area.

The following problem was given in 2004 for 4th grade pupils.

At least how many polygons have to be eliminated that the following statement to be false: "There is a rectangle between the polygons."



(A) 0 (C) 2 (E) 4
(B) 1 (D) 3

The correct answer is (C), but only 38% of the pupils have chosen this variant. 32% of the pupils have chosen the variant (B). These pupils think that only the third polygon is rectangle, the first one no. This is a typical error: students think, that a square is not rectangle.

This typical error can be observed also in the pupils' solutions for the following problem (1997, 3rd grade):

Which one is not rectangle?



(A) (B) (C) (D) (E)

The correct answer is (A), and 59% of the pupils have chosen this. But 27% of the competitors think that the shape (C) is not a rectangle, so they have the above-identified misconception: square is not rectangle.

We can identify the following typical errors in recognizing geometrical shapes:

- Square is not rectangle.
- Square is not rhombus.
- Rectangle is not parallelogram.
- A triangle is right triangle only if one side is horizontal, and the right angle is on that side.

Figure 2 helps in overcoming these misconceptions. It shows the relation between the set of rectangles, the set of squares, the set of parallelograms and the set of rhombs. The set of rhombs is that one marked with a thicker ellipse, the set of rectangles that one marked with the dotted ellipse, and the set of squares is the intersection of the set of rhombs with the set of rectangles.

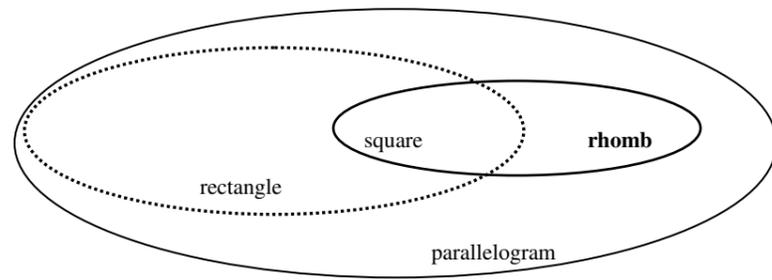


Figure 2. Parallelograms

We can observe the followings:

- Rectangles, squares, rhombs are all parallelograms, as a parallelogram is a quadrilateral with both pairs of opposite sides parallel. This implies that in a parallelogram opposite sides are of equal length, opposite angles are of equal measure. We can define the rectangle as a parallelogram, in which one angle is right angle. This implies that in a rectangle all the angles are right angles. Also a rhomb can be defined as a parallelogram with all the sides of equal length. A square is a parallelogram with all the sides of equal length and all the angles of right angle.
- Squares are rectangles and they are also rhombs. A square can be defined as a rhomb with one right angle. This implies that in a square all the angles are of right angle. A square can be also defined as a rectangle with all the sides of equal length.
- Not every rhomb is rectangle, and not every rectangle is rhomb. The intersection of the set of rectangles with the set of rhombs is the set of square.
- Another classification, proposed by Ashlock divide the polygons in two categories: polygons with four sides and square corners and polygons with equal sides (Figure 3).

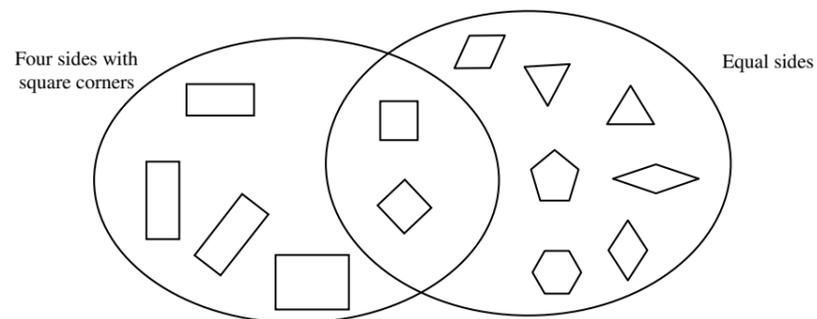


Figure 3. Classification of polygons

Teachers could organize the following activity to help pupils to recognize different geometrical shapes: divide the class in groups of three pupils; provide each group with a set of paper-cut geometrical shapes, and a sheet of paper with the contour of the two sets from Figure 3 (without the geometrical shapes); advise students to put the shapes in the correct place on the Venn diagram, telling to the group, why they have chosen that specific place. Another efficient way of overcoming misconceptions related with polygons is to use conceptual cards (Ashlock, 2002). In Figure 4 we can see a conceptual card for rectangles.

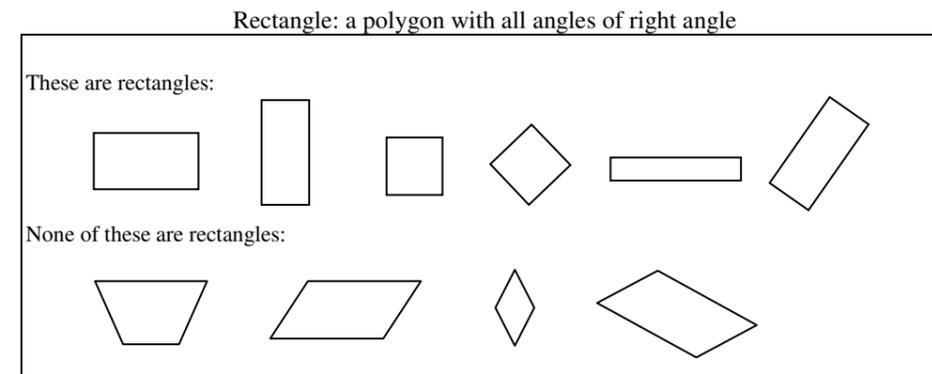
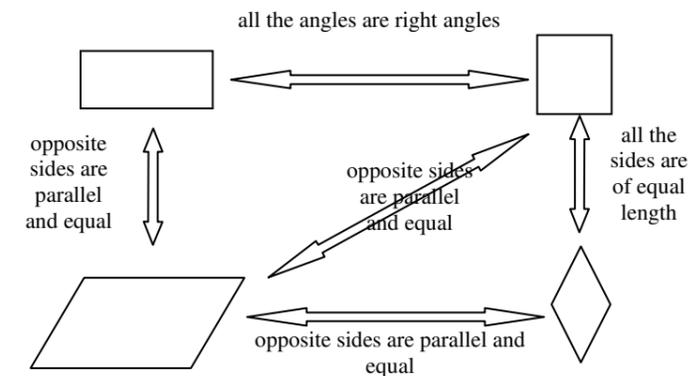


Figure 4. Conceptual card for rectangles

Conceptual diagrams can also help to discover the differences and similarities between different geometrical shapes. It is important to motivate why we connect two concepts in this diagram. In Figure 5 we see a conceptual diagram for parallelograms, telling what are the similarities between the connected shapes.



POSSIBILITIES OF THE PROFESSIONAL PROFESSIONALISM OF THE HUNGARIAN TEACHERS FROM ROMANIA

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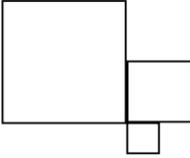
1. Professional professionalism and educational reform

The *professional professionalism* of the teachers in *traditional approach* is the process of gaining of more and more expert and efficient professional knowledge and special professional competence (Diaconu, 2002; Gliga, 2002). The *modern usage* of this notion is much more complicated, thus it is problematical to define it clearly. This equally means the forming of teachers' modern individual and group behavior adjusting to social needs, the finding of the new solutions regarding the organization and evaluation of teachers' work and the educators' rethinking of their role of educational politics respectively (Nagy, 1994, 1999). Therefore, the professional professionalism of the teachers is inseparable from the multiplying of educational sphere becoming democratized and the transformation of system of responsibility in education.

The Romanian education has been the scene of continuous changes in the past one and a half decades. At the change of the political system the Romanian educational system was one of the most centralized in Europe, thus it is univocal why the wish of the renewal of the education manifested itself in the pursuits for decentralization. In the process of the renewal and democratization of education the Romanian education was not alone. In other Central-Eastern European countries, too – a quicker or slower process with other accents, but similar, took place. "*The decentralization always solves old problems and brings new ones.*" – writes Cheng (1997,3) in his study on the decentralization of the Chinese educational system. At a great extent we agree with this statement since the several situations of the educational practice show us that the decentralization does not mean the solutions to all the problems in either countries, moreover these processes intensify the problems, the controversies of the given system. The same thing happened in Romania, too. Besides the several positive sides of the decentralization, in the course of decentralization such controversies appeared which were not perceptible before. The Central-Eastern European reforms have not left untouched even the situation of the teachers. The educator-society used to the vertical bureaucratic control had to face the new situation created by the changed social, political, economical environment.

The same problem, with slightly different shape was given for 5th grade pupils. They got much better results, as 54% of the pupils get the correct answer. Even in the case of 5th grade pupils 16% of them got the variant (A), so they have confused the area with the perimeter.

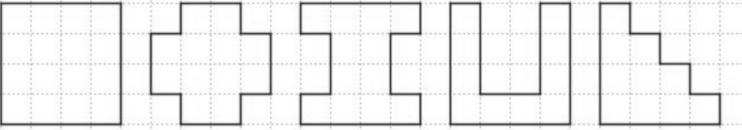
Near a square we draw another square with sides half of the original square, and another square with sides half of the second square. How many centimeters is the perimeter of this polygon, if the sides of the smallest square are 1 cm long?



(A) 21 (B) 22 (C) 23 (D) 24 (E) 25

The following problem is from 2005's competition, for 4th grade.

Which polygon has the biggest perimeter?

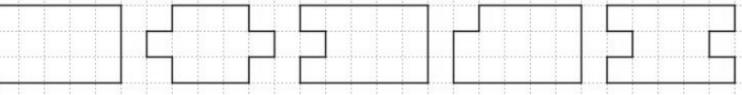


(A) (B) (C) (D) (E)

The correct answer is (D), but only 37% of the pupils got this result. Most of the pupils, 49% of them, have chosen (A). These pupils should have been thinking in area instead of perimeter, because polygon (A) has the biggest area.

A similar problem was given for 5th grade pupils:

Which polygon has the biggest perimeter?

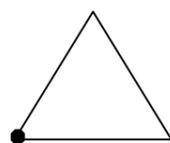


(A) (B) (C) (D) (E)

Here the correct answer is (E), and 48% of the pupils got this result. But 43% of the competitors have chosen (A). The percentage of those, who got the correct answer, is bigger, than in the case of 4th grade pupils, but still quite low, as it is not a difficult problem. The percentage of those have chosen (A) is quite high, almost the same as in the case of 4th grade pupils. This means that even in 5th grade they still confuse perimeter with area. This is a very frequent mistake.

It is interesting to study the following problem (1999, 3rd grade):

The triangle from the figure has 1 cm long sides. It is made from a material, from which 1 cm burns in 1 second, if we light it in an end of it. In how many second the triangle from the figure burns, if we light it in the given point?



(A) 1 (B) 1 and a half (C) 2 (D) 2 and a half (E) 3

The correct answer is (B), but only 12% of the pupils got this. Most of the pupils (60%) have chosen variant (E), as they didn't consider the following fact: the fire propagates in both direction from the initial point, so they shouldn't calculate simple the perimeter. This problem shows that pupils in many situations just calculate automatically, instead of thinking; they use the known algorithms or solve the problem in the same way as they have solved other problems before. Probably they have solved many problems in which they simply have to calculate the perimeter.

We identified the following typical errors in case of calculating perimeter:

- Pupils confuse perimeter with area.
- Pupils use incorrect formulas in calculating the perimeter.
- Pupils' procedure of finding the perimeter depends on how many sides are actually labeled. (Ashlock, 2002)

The following activities could help pupils to correct these errors:

- Pupils trace around the figure with their finger, telling the length of each side then adding these lengths to find the total perimeter.
- Pupils calculate the length of a fence that goes around the figure. In this case they see, that they need to know the length of each side of the polygon. Also this helps to distinguish perimeter and area.
- Pupils calculate the perimeter of regular polygons with only one side labeled. They can do this in more than one way.

4. Conclusions

Analyzing the results of the students we observe, that even simple problems in Geometry are very difficult for primary school pupils. There are some solutions to overcome this problem:

- Pupils should play; solve problems using concrete geometrical shapes (for example they can cut geometrical shapes from hard-paper). For example they could build different pictures from geometrical shapes, and name, what kind of polygons they have used. Also they could divide a polygon in known polygons, and name, what kind of polygons they have obtained.
- Teachers should make the geometrical knowledge more attractive to pupils. They can do this by solving very practical problems, as students see how Geometry is useful in everyday life.
- Teachers should use computer programs to illustrate geometrical knowledge. They can use dynamical geometry programs, as Euklides (Árki; László, Simon) or GEONExT (Marchis 2006b; Marchis 2007). Using these programs in an appropriate way improves pupils' results. Its is important what we use and how we use, as using mathematical programs is not always leads to better result, if we don't use them in a correct way, don't plan the lesson carefully and integrate the program in the lesson (Kis 1996).

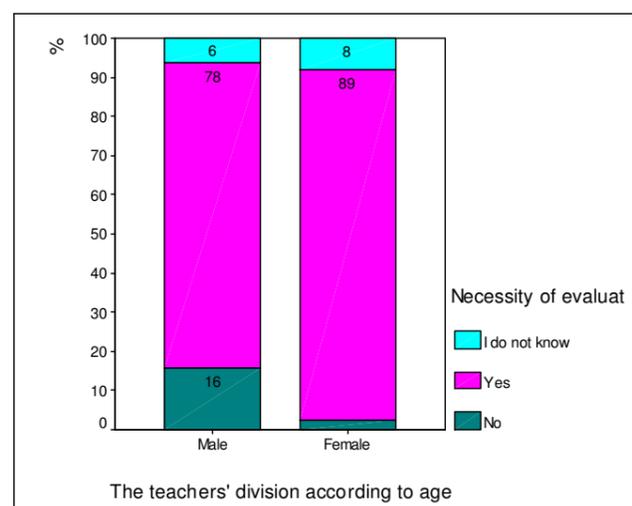
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8. *** *Matematikai versenytessztek*, Mozaik Oktatási Stúdió, 1991-2006

teachers' training we reached to the conclusion that the professional professionalism of the Romanian teachers is constrained by the inherited centralized vocational and examination systems (examination for making permanently appointed, for the degrees I and II). The possibilities of a career are exclusively dependent on the time spent in the profession, since these exams can be applied for only after a certain time (2+5+5).

4. The necessity and criteria of professional evaluation in teachers opinion

The question drafted was based on the outline of the teachers' exam system and further vocational training. It is about the Hungarian primary school teachers' opinion in Harghita County, about the educators' up-to-date system of evaluation. Our research results prove that significant part (that means 88%) of the primary school teachers' in Harghita County need the evaluation of their work. So there would be a *claim to the real evaluation of professional activity*. The given question - among the background variables studied by us - is in significant relation only to the teachers' *sexual distribution*.



1. Figure: The opinion heard about the necessity of evaluation and the relations to the teachers' sexual distribution

Male teachers consider less important the necessity of professional evaluation than female teachers. Among the interrogated educators, 89, 4% of the female teachers consider the necessity of evaluation to be important, while it is only 78, 1 % in the case of male ones. In other background variables we have not found any significant relations.

The exploration of *criteria* of professional evaluation gained in our research priority also because we were curious about the fact that if the teachers' themselves had the

We cannot leave without attention the fact that in the professional circles more and more strengthened the recognition that the teachers are the planters of the reform in to practice in these processes. "...*The only serious supporter of an educational reform today, is the intellectuality - thus, first of all the educational society must be won over.*" - writes Kozma (1992, 41), and indeed it can be considered as an evidence the fact that any intention of reform, innovation is only one possibility till the winning over of the educators is not successful. Thus the effects of the educational changes on the participants to the educational process (students, parents, and educators) are clear.

The aim of the paper is the research on the *connection between the educational reforms and the educators, more concretely, the specific connection between the Romanian educational reform and the Hungarian educators from Romania*. In our investigation we focused on practicing educators. Our choice for educators was not only for the fact that they are the "planters into practice" of a macro-level planned changing process, but also for the fact that we feel that in the professional literature more and more the role of the "teacher policy" in the educational policy of different countries comes to the fore. Several annalists recognize the role of the teachers in the process of the renewal, modernization of the educational system. (Kozma, 1992; Darvas, 1993; Nagy, 1993; Bunescu, 1993; Ferenczi, 1998), and in the international professional literature shows that the teachers and the schools are the main source of power in the modernization of the educational system (*Teachers Matter, 2004*). The teachers can be seen as the passive endures of the changes, of the process of the reform, since these new processes challenge them again and again, strengthen their strain. It is not negligible the problem that the situations requiring new extra activities, information and efforts are lived through as a pressure of conformity, or rather as a possibility for a higher degree of professional identity and self-realization, freedom in choice and a chance for alternativity. In this situations the opinions concerning the profession and the education, the feelings, the attitudes and the convictions (Szabó, 1998) get an important role, and at least as important as other objective factors (aims, content, the number of the students, auxiliary means).

Finally, we must not forget about that fact that independently from the changes in education, the social expectations and demand from education are enlarged greatly in our days, the role of school in the training for social life has changed (Husén, 1997). According to Nagy (1993), the efficiency of school appears in a more complex way, and thus the teachers' professional challenges are more. This situation confronts the educators with such tasks, which were not prepared before in our studies, because - they were not trained so, fact given by the characteristics of the situation. Therefore, the redefinition of the professional requirements of the teacher profession, the demand for the accommodation to the new situation is not a question any longer. In the document entitled *The Teacher Today*, OECD, we can read the following: "*The teachers cannot flee from the modern constraint of the changes, the society expects from them the highest level of competence and commitment.*" (1993, 717).

2. The aims, the process and the methods of the empirical research

The *starting point* of our empirical research is constituted by the changes in the Romanian educational system in the past one and a half decades. The Romanian educational reform influenced in several points the work of the teachers. According to all these our research focuses on the changes in the Romanian educational system, first of all in order to present the place and role of the Hungarian teachers from Romania during the reform.

The movements having the character of decentralization of the controlling of education, the curricular reforms, the transformation of the responsibility system inside education, the modifications of the school structure and exam system have all had an effect on the formation of the educators.

The positive effects of the educational reform are longer; the negative ones affect mainly those in the given system. More and more often it is formulated in the professional circles the fact that the involvement of the educators in the educational changes can not be realized without the appearance of the “owner” feeling, of essential changes. (*Teachers Matter, 2004*). Starting from this assumption the *primordial question of our research* presents itself, question which searches the answer concerning the *effects of the changes in the Romanian educational system on a part of the Hungarian teachers from Romania working in the elementary training in the past one and a half decades*.

Starting from the primordial question of the research we formulated several questions related one to the other. This paper presents just a part of our research, that’s why the following questions emerged:

- What kind of possibilities do educators in Romania have of professional professionalism?
- Do educators need real professional evaluation and to what extent are they satisfied with the present existing procedures?
- Does the opinion of the teachers concerning the above mentioned areas define the background variables that are investigated by us?

In the presentation of the effects of the changes in the educational system on the teachers from the Harghita County, as well as their opinions, conviction, appreciation, we supposed that their opinion is influenced at a great extent by those parameters on the basis of which the given educator-population can be described. Thus we assumed that the opinion of the teachers concerning their professional self-image, professional evaluation and the social appreciation of the profession as well as the reactions to the challenges of the reform processes might be made specific by the investigated person’s age, sex, professional experience, attended schools. The stratification of the research sample according to sociodemographic points of view (*sex, age, attended schools, professional experience*) can be considered basic variables and at the same time independent variables, too.

According to our theme Hungarian teachers from Harghita County form the basic majority of our investigated persons. From this majority a more staged *cluster-sample*

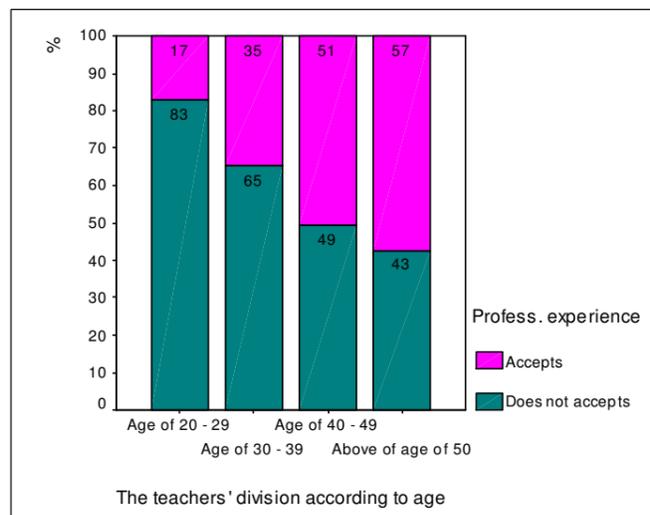
taking of 316 Hungarian primary-school teachers formed the sample. We used an expert sample taking as the first stage of the sample taking. We used primary-school teachers and not teachers from higher stage because we considered that in the given stage of the educational changes (2003) the primary-school teachers have more relevant information concerning our theme. The justification of our choice has two directions. First of all the starting with the primary school, the ascendant system of the educational reform, on the other hand, with the concrete modifications due to the processes of the reform (curricular decentralization, alternative course books, optional subjects, evaluation system, and others) affected first of all the teaching-studying process in the elementary school. In the second stage of the sample taking we identified all the methodological sectors than from all the sectors in proportion to the number of the sectors we *took the sample*. Persons from towns of Harghita County (Odorheiu Secuiesc, Miercurea Ciuc, Gheorgheni, Toplița and Cristur) and from their areas were taken at random as investigated samples. In the course of the research the used *method combination* is the specific combination of the theoretical analysis and the questionnaire survey.

3. Possibilities of the Professional Professionalism of the Romanian Teachers

In the initial stages of the reform, the educational politics did not attach importance to the situation of the profession. In this point, the Status Law of Social Education Staff from 1997/128 was to stop a gap, because it was meant to ‘fill the gaps’ in the regulations of law concerning to the profession. According to Gliga (2002) this law based the elaboration of professional standards. Issuing from its nature, the law deals with the functions connected to the profession, competences, rights, responsibilities and duties detailed. Among these the bettering of conditions of activity and the increase of professional status get priority. In the Romanian specialized literature such standards of performance appear which could have constituted or could constitute the foundation of teachers’ professional comparison and the evaluation of excellent teachers (Diaconu, 2002; Păun, 2002). It is counted among the greatest steps of the period after 2001: the educators’ participation at postgraduate studies became obligatory in every five years, the introduction of the credit-system in some postgraduate studies and the appearance of professional retraining programs. Despite all these we can read even in the Romanian specialized literature (Tăranu, 2005; Chivu, 2005) that they did not succeed in renewing fundamentally the system of postgraduate studies.

In our research we can not ignore the presentation of the situation of the profession of the teacher. Our aim was not the investigation of the situation of the teachers from Romania as an intellectual stratum, but we flashed only some of its particularities that helped us to gain an insight and to get a proper background for the interpretation of the data concerning the profession of teacher. Further we delineated the supposed effects of the reform on the teachers, then we defined the “possibilities” of the professional professionalism reform. On the basis of the operative educational laws and of the Romanian

interrogated accepts the *professional experience* as a criterion, consequently, two-thirds refuses it. As it was only to be expected, this point of view is in significant relation to the *educators' age* and *professional experience*. The inquired cannot treat it in isolation from their own situation. The older a teacher is, having the more professional experience, the less he/she will refuse the professional experience as evaluation criterion.



4. Figure: The connection of acceptance of teachers' age and professional experience as evaluation criteria

We have received similar results in the respect of the *professional experience*. The less time a teacher has spent in profession the less he/she accepts, and the more time an educator has spent in profession the more he/she accepts the professional experience as evaluation criterion ($p=0,000$). The educators' participation at different further vocational trainings and performing additional activities is not in particular relation to the acceptance of the above mentioned criterion as evaluation point of view.

5. Conclusions

On the basis of the structural analysis of the education and of the results of our research we can say that in spite of the priorities of the official educational policy between 2001-2004 (the improvement of the conditions of the teachers' activity, the rising of the status of the profession), in the past one and a half decades the *Romanian teachers' situation has not changed* in a significant way. Though the redundancy of the workers after the change of the political system did not affect this category of people, the teachers society

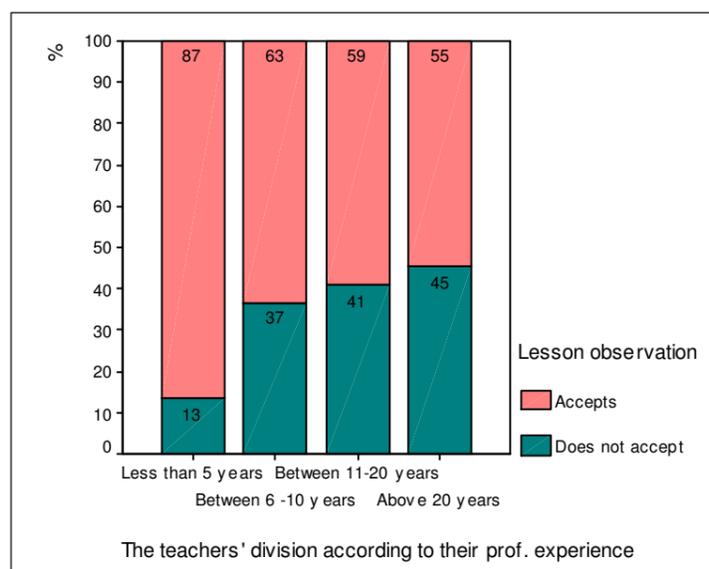
opportunity to, what kind of guidelines would they apply in evaluating their own activity. The Hungarian primary school teachers' opinion about criteria of evaluation is summed up in the following chart. (1. Chart)

The educators' criteria of evaluation of their professional activity	The distribution of choices in %
Lesson observations	60,1%
Extra school activities organized for students	54,7%
Professional self-training, participation at further vocational training	54,4%
Outer measuring of students' achievement (subject tests)	46,5%
Students' achievements (notes, qualification)	46,2%
The students' results of entrance exams and subject competitions	39,2%
Professional Experience	37,0%
Professional exams (permanent position, I. and II. degree)	32,6%
Professional, scientific points of view (conferences, publications)	20,3%

1. Chart: The educators' criteria of evaluation of professional activity according to the educators' opinion

The inquired consider the *direct observation of the work during lessons (1.)*, *extra school activities (2.)* and the *professional self-training (3.)* to be the most acceptable criteria of evaluation. Among the less acceptable ones appear a few, which are still valid criteria at present, in the Romanian educational system. The most important criteria among these are the *spent time in profession (professional experience)* and the *professional exams*. The studied strata of teachers accept the least the professional-scientific point of view as a criteria of evaluation.

In what follows, we will examine in the respect of the lesson observation considered to be the most important and the professional-scientific considered the least important evaluation point of view, in addition to this, we will also touch upon the almost absolute criteria in the Romanian public education, namely the professional experience. Lesson observation would constitute the most accepted evaluation point of view for Hungarian primary school teachers in Harghita County. Two-thirds of the inquired (60, 1%) would accept this as evaluation point of view. The examined educators agree mostly on this, this being in significant relation only to the professional experience among background variables. Those disposing over greater professional experience would accept less, while those disposing over less professional experience would accept much more the lesson observation. Those educators, who spend the more time in profession they accept the less the lesson observation as evaluation point of view. (2. Figure)

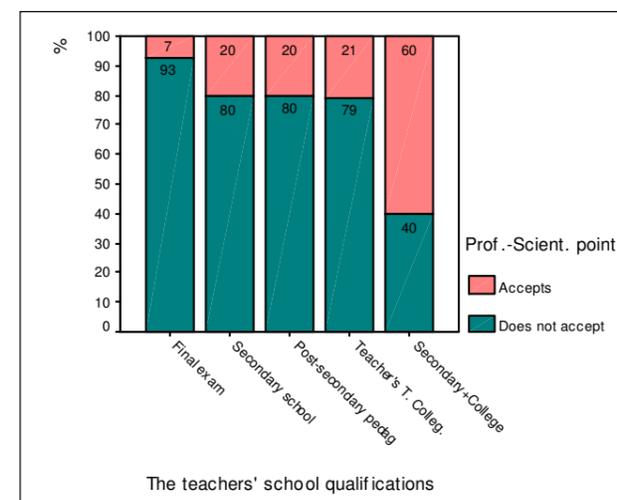


2. Figure: The relations of choosing evaluation point of view between the educators' professional experience and lesson observation (N 315, $p < 0,05$)

The least accepted is the so called scientific-professional point of view. Only one-fifth of the interrogated (20, 3%) would accept it as criterion of evaluation. Despite the fact that it is exclusively a professional point of view, it is still the most rejected criterion of evaluation among the Hungarian teachers in Harghita County. This is why we considered important the more detailed analysis of this point of view. Almost the two-thirds (59%) of the examined Hungarian teachers of this small region does additional work or activity, though only an insignificant percentage of them does scientific work: 3,33% of the interrogated is a course book writer, 1,66% appear at conferences as speakers and further 1,66% does publishing activity. The tradition of secondary teacher training may have a significant role in this. A person possessing a secondary qualification (with final exam) has much more limited possibilities to scientific success than those having university degree.

Among these it is also possible that the fact described by Darvas (1993) is also typical of Hungarian primary school teachers in Harghita. That is before the change of regime, the outer bureaucratic control influenced the teachers in such a way that their professional identity has weakened or they have given it totally up. Thus the Hungarian primary school teachers' scientific activity of the small region consists of participating at different further vocational trainings. 84, 2% of the inquired took part in a further vocational training in the last 5 years.

The acceptance or refusal of the scientific-professional point of view as an evaluation criterion is in significant relation to the teachers' school qualifications and the type of settlement of the school. Although the interrogated generally refuse the professional-scientific point of view, the degree of refusal is not the same in the teachers' different groups in Harghita (3. Figure).



3. Figure: The teachers' school qualifications in relation to the acceptance of the professional-scientific point of view (N 315, $p < 0,05$)

The double qualified (that means possessing both secondary education and college degree) teachers refuse the professional-scientific point of view less than their mates possessing other qualifications. This point of view can be understood to a certain degree, if we consider that those possessing a double qualification are the ones from whom the persons possessing the most professional self-demand are chosen. They had already possessed teachers' secondary qualification before finishing college. Thus for them finishing college is not the condition of staying in profession, but the token of their professional self realization. This connection even strengthens our former conclusion according to what those possessing higher education are more open to regarding the professional-scientific criteria.

The professional experience (time spent in profession) and the professional exams constitute the basic point of view of teachers' professional evaluation in Romanian public education. These occupy the last place (that means the 8th and the 9th place) among the interrogated teachers' evaluation point of view. This refers by all means to that the inquired are not satisfied with the present situation in this respect at all. One third of (37%) the

parents because they live in an environment where they do not master either language or reason and, supposing that they would want to help them, the actual distance that is too significant determines them to appeal to 'education on the telephone'. These children can be assigned the 'orphans with parents alive' syntagm. In 2002, 70,000 young people aged between 15 and 25 were illiterate. In the 2004-2005 school year the national rate of the school abandon was 1.7 %.

The Romanians' 'gold rush' in the XXIst century is the exodus of the country and unemployed people abroad for becoming 'the slaves of the West'. The statistics show that more and more parents abandon their families and children for leaving to work abroad. There are approximately two million Romanians who work legally or 'on the black market' across the border, out of which one million in Italy and other 500,000 in Spain.

The phenomenon of the 'orphan' children with parents alive is one of the most unexpected and dramatic that the Romanian family is now experiencing. At this moment these students have got countless absences, they are inclined to aggressiveness, delinquency, drug, tobacco, alcohol consumption and so forth. 85 % of the children who get to the psychiatrist have at least one parent left abroad and the parents prefer paying for the treatments than come back and stay with their children.

Increasing cases of domestic violence against the alcohol consumption background starting from earlier and earlier ages. Pornography and violence, which are broadcast by the media any time, lead to man's moving away from his mission on earth. There are cries for help coming from all directions. Family, education and life are in danger !

2. Effects of the Parents' Absence at the Level of the Children's Emotional and Attitude Behaviour

The children whose parents work abroad experience real dramas every single day, because their missing their parents and loneliness have chased their tender childhood, as they are left to be raised by grandparents, relatives, neighbours. Their innocent souls are searching for the parental love and for that shoulder on which they could cry out their sorrows. They get mature ahead time (realizing all of a sudden that they have to take care of an entire house, to cook by themselves, to get ready for school and so on) and what is still technically left for them is counting the days, the hours, the minutes until they will feel again the embrace of a parents temporarily come back home. The sadness and the apathy that can be read in the children's eyes and that they have shared with sincerity in writing need no more words...

It is beyond all doubt that the worst side of immigration affects the people that remained home and the first victims of this phenomenon are the children, whose emotional fragility exposes them to high risks. Two children out of three whose parents have left to work abroad considerably feel the lack of their love. According to the psychologists and the sociologists, these children develop disharmonious personalities and, consequently, once grown-ups, will form a generation of adults with social integration problems. The children whose parents left for working abroad, the 'orphans with parents alive', remained to be

has had to face two fundamental problems: the small wages and the great proportion of unskilled teachers. These two problems are not independent one from the other, since in spite of the great number of teachers' training, the proportion of the unoccupied jobs in education has not diminished. Thus we have to face a *hidden lack of teachers* in the Romanian elementary education. Besides this, in the ranks of the youth the mobility inside the profession and towards other professions is very great.

The results of our research concerning the *professional evaluation and the social appreciation of the profession* can be interpreted only in relationship with the professional professionalism of the teachers to the Romanian possibilities. The Romanian teachers - similarly to the European practice - are employees. The progress in career is based on a seniority system, which is connected to the attended schools and to the time spent in the profession. Though we cannot deny the fact that there have been trials for the renewal of the vocational system, in the *Reform planning of 2001* the obsolete vocational system continued to appear in a centralized form. The results of our survey show that Hungarian teachers from the small region demand the real professional evaluation, and at the same time they are not satisfied with the operating methods. The teachers opinions depend on their age: the older generation accepts the system in effect, while the younger generation demands a more complex system, comprising more professional points of view (teaching, extra school activities, professional self-training). The inquired persons would accept the control of the users (parents, students) and of the colleagues, but they hardly accept the hierarchically built control (inspectors). In other researches from Romania (Școala la răscruce, 2001) and at other analysts (Iosifescu et al, 2001) appears the distancing from the authority, as a kind of mentality particularity of the Romanian teachers and school culture. This is caused by the long termed centralized bureaucracy.

Knowing the results of our empirical research on the Romanian educational system we are convinced that significant transformations in the *situation of the teachers and of the social appreciation of the profession* can be made only by the *renewal* of the *teachers' training* and of the *vocational courses*, as well as of the -seniority based - *professional evaluation systems*. We cannot deny the steps made in this direction either (the bringing of the teachers' training to the rank of a college, the theoretical development of the professional standards), but the positive effects of these are sensed only through a committed, consequent educational policy and through the necessary practical steps. The breaking of the traditional professional evaluation of the teachers and its revision according to the complex professional points of views (professional experience and activity during the class, extra activities related to the reform, development of curriculum, vocational courses, scientific activities and others) may improve more on the situation of the teachers.

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MIGRATION – A NEW CAUSE OF THE LEARNING DIFFICULTIES IN CONTEMPORARY SCHOOL

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The present paper is focused on describing one of the aspects of migration phenomenon and its implication in the context of contemporary education. The statistics show that in some cases, the leaving of one of the parents causes the deterioration of the relationship between the child and the parent that remained at home, be this the mother or the father. For this children whose parents have left to work abroad school represents an important factor of stress. As an operational method for acting, the establishment of the differential diagnosis is very important. The student with learning difficulties may be recuperated if he/she attends personalized intervention programmes that carefully include : objectives, proper recuperation activities, specific methods and means, the duration of each activity carried out and the forms of the periodical and final evaluations.

1. The Migration Phenomenon And Contemporary Education – Pedagogical, Psychological and Sociological Implications

School is the most important factor of education. Education is put into practice in various forms, more often by common activities, as students learn from each other. The contents that are transmitted are carefully selected, according to psychological and pedagogical criteria, the educative activities requires structuring while complying with the didactic principles, the most active teaching-learning methods are dimensioned, by means of which the items of knowledge specific to acquiring skills are transmitted. Education has to incessantly meet the requirements of the evolution of the national and international reality. The tasks of education are therefore totally new and difficult.

The generalization of education up to the age of 16 is both a big progress and one of the causes of the educational failure, as more than 10 % of the young people leave school with no degree. School is meant for the students who should learn, however it is not yet able to take into account the ones who have difficulties. A student who ‘does not know’ or ‘cannot’ must double that grade. However it has been noticed that a student who has doubled a grade has got fewer chances to keep on attending normal schooling. At this moment school has not solved the problem of the inequalities either, as failure is often linked to the social origin and, more recently, to the immigration phenomenon. The students who have difficulties are generally those who come from modest milieux (minorities, unemployed people), as they cannot be helped at the school level by their

and the exterior world, between school and other working places does not contribute enough to the student's training for the social and professional life and this one often feels abandoned by society, too, and no longer finds the support needed for continuing the educational process. The vast field of the learning difficulties may be approached by appealing to certain taxonomies :

4.1. Depending on the Category of Students :

4.1.1. Difficulties / Problems in the Process of School Learning, Correlated With the Sphere of the Involved Personality :

Learning difficulties included in the cognitive field (a reduced cognitive experience, the limits of thinking, poor verbal skills)

Learning difficulties included in the emotional field (emotional mobility disorders, fear of school, shyness)

Learning difficulties included in the motivational field (the absence of the intention to learn, sub-motivation)

Learning difficulties included in the volitional field (negativism, lack of perseverance)

Learning difficulties included in the personality field (character troubles, such as lying and laziness, temperamental disorders, attitude troubles).

4.1.2. **General Difficulties During the Learning Process Included in the Relational-Educational Field** : family factors, psychological and pedagogical factors related to school : the rigidity of the learning rhythms, the differences that exist between the teachers' requirements, the size and the heterogeneity of the class, deficient didactic styles, deficiencies linked to the school resources. These difficulties may appear at any child, irrespective of his/her knowledge or learning style, in a perspective that puts all children together, not only those deemed to have deficiencies).

4.1.3. **Specific Difficulties / Deficiencies** (a separate category of issues studied by the special psychology and pedagogy)

4.2. Depending on the Criterion of the Scientific Perspective for Analysing the Phenomenon of Learning :

4.2.1. From the psychological perspective, learning is a fundamental activity for the adjustment to the environment and for the psychological and behavioural development and the learning difficulties are considered to be stagnation factors or barriers in the way of development.

4.2.2. The scientific and pedagogical analysis points out the link between the learning difficulties and the educational process, as any difficulty can be seen as a problem of the child who cannot handle the training task, of the teacher who has not found the right teaching-learning method, or of the environment or of the educational context, which impedes the production of the acquisitions.

taken care of by some people who try to be the replacement of the parents. However, around 10 % of these children remain at home by themselves. In the happiest cases they get the attention of a quite far relative. We are talking about the children who from the age of 6-7 learn how to take care of themselves and even of their younger siblings. 30% of the children whose parents leave for working abroad are left to be taken care of by their grandparents, who, most of the times, do not really succeed in replacing the role of a parent. And these grandparents admit that we are now facing other times, that today one cannot raise children as one used to raise them 20-30 years ago.

One child out of ten skips school on a constant basis after his parents' leaving to work in another country. Primary school students, because of their remaining unsupervised by the parent that they used to obey, are likely to become aggressive because of the frustrations and the anxiety that begin to manifest.

The danger is greater in case of young children, whose personality shapes disharmoniously from the beginning. Many of them have trouble sleeping, become aggressive, do not trust themselves because of the lack of the parental model and even starting with the elementary school they begin to lie, to join street groups and, as they no longer can communicate well with the other members of the family, become emotionally unstable. It is true that part of the children of the people left abroad lead a better life thanks to the money that their parents send. Nevertheless, as psychologists say, money cannot replace affection.

On a short term, the parents' leaving translates itself, in the children's life, by verbal or physical aggressiveness, by marginalization, anxiety, low marks, school skipping and even school abandoning. On the long run, this generation of children deprived of their parents' love and of the family harmony, may become a problem-adults one and nobody excludes the possibility that some of them will even become criminals. The aggressiveness of many children belonging to the 'home alone' generation, their refusal to accept the fact that they have problems, the pain caused by their parents' absence turn them, when they are grown-ups, into a generation of socially non-integrated adults. The child that grows up without parents or only with one of them will become an adult who cannot understand the meaning of marriage, who does not trust the institution of marriage and people in general. More and more young people that leave abroad for working and for collecting the money needed for buying themselves a house or for providing themselves a better life return home with serious psychological disorders.

The long period of time spent far from the family, the risks associated with health, the remuneration that could be much lower than expected, create a crisis situation around the migrant person and his/her family. The negative effects can be noticed both at the level of the individual as a citizen abroad and at the family level. Lots of people however try to analyse things from another viewpoint, that is : OK, but what chances do we got here ? It is even a nice thing to have the courage to enter another work market, to learn another language, to have access to another culture, to another system of values, to begin to

assimilate oneself to a society different from one's, but the possible risks associated to oneself, as an individual, and to one's social environment must be kept to a minimum. It is about the social relationships that one has the moment of departing. However these things are not always taken into account.

By assuming the risk of the unregulated leaving, the migrant person usually invokes a short period absence, being to be back as soon as he/she has earned a certain amount of money, but he/she enters a vicious circle, where the money earned require more time than initially supposed. The result thereof is that the children are abandoned and, in most cases, at the age when the parent's involvement in their education should be extremely important and necessary, when the children develop their personality and form a system of values, when they have to make a decision relative to the world in which he/she wishes to live. It is the time when the child has to realize how he/she could personally influence this world. The model of the parents who have left him/her only because of the money create an absolutely wrong option for the universe in which the child grows and assimilates the system of values.

3. The Immigrant Parents-Children Communication And Its Educational And Didactic Implications

In many cases the real tragedies experienced at the family level are conditioned by the disturbed communication between the parents and the child. For justifying, in a certain way, their absence from the child's life, the parents fill this emptiness of communication with absolutely useless things such as expenses clothes and cell phones or money. By trying to justify their absence, they distort the child's education, namely this one understands that it is possible to obtain many things without any struggle, because there is someone who provides them all. It is a wrong treatment, a false illusion that money can justify and replace the lack of communication. The most difficult to estimate is the system of values according to which the migrant people's children were and still are raised, and their option for the future. They have not have the image of the mother who comes from work tired and who needs peace, care and the child's involvement. The generation that is growing runs the risk of becoming one who only knows to consume. There is a big question mark as to what system of values these children will perpetuate, to which way they will take. It is highly less probable that they will accept the idea that in life people can only obtain something if working a lot and that work does not necessarily mean a physical effort, as the majority of the parents abroad made and keep on making.

Work can also be manifested by an intellectual effort. Each year we notice the cognitive, emotional and motivational degradation of the teens who go in for college : far lower intellectual skills, lack of interest, of motivation and wish, their reduced capacity of social participation, the impossibility to shape a probable desirable future. This is one consequence of the fact that around them there are no longer the adults' positive models, as these ones are lost somewhere abroad, and it is about the models that they have not had beside them or felt each day.

Education means daily participation and surveillance, constant monitoring of the child – how many progresses or regressions he/she has made, what skills he/she has, what aptitudes we must develop to him/her and what insane desires we discourage. And if there is no one to help him/her step on the right way, orient himself/herself in his/her own career starting from his aptitudes, then he/she finds himself/herself in a chaotic movement of some aspirations and trendy things that he/she targets because everybody targets them. In the target groups, whose representatives are teenagers with a higher degree of risk that includes prostitution, the use of drugs, juvenile delinquency, a considerably great number is represented by the children whose parents - one of them or both of them – are gone abroad.

Despite the stated will of establishing 'an equality of chances for everyone', there is a more or less hidden selection that operates at all levels. Students are oriented not according to their skills or to their aspirations, but according to the way in which they have been distributed as a result of the good selections. Thus the young people that originate from very modest milieux, especially the minorities, are to be found, in general, in the vocational school and sometimes, as they face school adjusting problems, they abandon school. The Ministry of Education, Research and Youth, being aware of all these issues, thinks about the need of renewing the educational system and especially of the reduction of school failure and abandon, while laying the stress on the attraction of the didactic staff, of the local communities, of the parents' associations, of the administration, of the external partners, of various non-Government organizations in the middle of the working groups. The sporting, cultural, audio-visual equipment, the remedial education programmes, summer kindergartens or 'school after school ' are insufficient. The schools are not generally endowed with rooms where students should be able to work alone or in groups or to gather for listening to music, for singing or for directing shows.

The traditional Comenius division of the classroom has not disappeared completely : the teacher's desk is placed in front of the students' desks, which are aligned ones behind others, the good students upfront and those with poorer results, in general those originating from the minorities or those whose parents miss the parents' meetings and are not directly interested in the school situation, behind the classroom. The educational system has the reputation of having a high level, that is students must assimilate highly different items of knowledge, but they are asked to learn many things 'by heart', which is sometimes detrimental to their personal thinking and discovery. The educational system is still put into practice by means of classes, during which the students tend to be very passive, especially those placed in the last rows. Even though teamwork has developed, individual working remains the privileged one.

4. The Learning Difficulties – A Priority of the Contemporary Fundamental and Applicative Pedagogical Researches. A Few Taxonomies

Students are usually evaluated according to their personal homework done in the classroom or at home. The schools still arrange few outs : visits at various museums, exhibitions, establishments and equally few meetings with various specialists such as psychologists, physicians, legal advisors or police officers. This lack of link between school

6. The Personalized Intervention Plan

According to the various models of intervention in the learning difficulties there are individualized plans, which are applied directly to the students by the advisory teacher and also plans that are implemented by the didactic staff with the help of the advisor. The intervention is part of a scheme specifically drawn up to answer the particular problems appeared at a certain moment in the child's development. This plan is an instrument of organization and prescription, a draft of the activities that are to be carried out in favour of solving the child's learning problems. It combines the psychology and sociology elements (it identifies the problems at the level of the individual and social psychological development) with the pedagogical norms and principles, while monitoring the efficiency of the actions directed towards recovery, remedying, compensation or correction.

As an instrument for projecting actions, the plan identifies the problems, searches the causes, orients the action, provides the instruments specific for the intervention, recommends evaluation instruments, it is very close in its structure and approach to the lesson project, which is a working instrument and a guide for the teacher, as it offers a survey, a scenario of the activity that is to be carried out (M. Bocoș, D. Jucan, 2007). From this viewpoint, the literature uses terms such as therapy, remedying instruction, the correction of the specific learning difficulties and intervention. The most complex term is the intervention one, because it may suppose a wide spectrum of measures, be they instructional, psychological, educative or even medical. At the same time, this term suggests the most clearly the purpose of the action of intervening – that is to enter the psychological mechanisms of learning and development by appropriate methods. The intervention scheme is a well filled in multiple choice text, which is used by all the people who decide to orient their interventions towards the child. It is first of all an approach meant to know the child / the student and to approve the educative measures that are fit for him/her. This approach requires both the specialist's and the parents' participation.

The personalized intervention plan corresponds, in fact, to the need of approaching the learning problems in the most personalized and individualized way possible and it identifies the thesis according to which, as each child is different, each problem must be individually known and treated.

Types of Intervention Plans

6.1. services plans : the children receive the services of some structures in the school, health and society environment – these plans decompose themselves into intervention schemes in each field where that person needs services linked to his/her deficiency ; the schemes are drawn up by some Assessment and Orientation Inter-Disciplinary Commissions in collaboration with school and the family ;

6.2. interventions plans, which must be individualized and which are included in a global approach, within which the assessment of the resources, the identification of the difficulties, a prescriptive diagnosis and the steps had in mind for the intervention are made beforehand.

4.2.3. The psychological and pedagogical perspective looks at the learning difficulties from the point of view of the causes that generate them and lays the stress on the intervention and prevention possibilities (the processes involved in learning are analysed and the steps needed for producing acquisitions by assimilation and adjustment are set up).

4.2.4. The comprehensive, inter-subject approach is an analysis of the integrative and inter-subject type of the learning difficulties, which usually starts from the premise that any child is able to learn, irrespective of the degree or the form of a deficiency or disability.

Even though the origin of the learning difficulties is hard to identify, A. Gherguț (2005) suggests a synthetic classification, which comprises the above taxonomy, in a way or another, as well :

A .Induced Learning Difficulties :

a. intrinsic:

- actional-procedural (passive receiving, the lack or the scarcity of the learning techniques) ;
- organizational (the non-distribution of learning, interferences in self-learning, a subjective self-evaluation) ;
- attitudinal (indifference, lack of interest, school sub-motivation, negativism) ;
- rendered valuable (the inconsistency of the previous experience, gaps in the previous learning processes) ;
- occasional (incidents, indispositions, the presence of some diseases) ;

b. extrinsic :

- generated by the poor quality of training / teaching ;
- the school over-stress ;
- the lack of an intellectual activity regime ;
- a low cultural and material level within the families ;
- the lack of the student's family's / tutors' collaboration with school ;

B . Proper Learning Difficulties :

a. depending on their area :

- general – common to several curriculum areas and school subjects ;
- specific – characteristic to one school subject or theme

b. depending on the social field affected :

- academic/school ;
- socio-professional

c. depending on their nature :

- dischronologies ;
- cerebral and functional disymmetries ;
- disadaptative (especially for the school environment and for the general educational one) ;
- shortcomings of speech and communication (speaking, writing, reading, the use of specialized languages) ;

d. depending on the objectivation plane :

- verbal ;
- non-verbal

e. depending on the pragmatic / praxiological cognitive dimension :

- development difficulties ;
- accumulation difficulties ;
- use difficulties ;
- combination difficulties ;
- difficulties in renderings things valuable

f. depending on the direction of processing the information :

- input difficulties (perceptive-visual, auditory, temporal-rhythmic, attention ones, non-differentiation) ;
- integration difficulties (sequence ones, in rendering things abstract, organizational) ;
- retention difficulties (short term memory and long term memory) ;
- output difficulties / difficulties linked to expression (oral language, writing, reading) ;
- difficulties linked to the mathematical thinking (calculation, argumentation, problem solving) ;
- difficulties linked to the motive expression (fine, general).

5. Psychological and Pedagogical Counselling In Case of the Learning Difficulties

The dimensions and the implications of the psychological and pedagogical counselling in case of the learning difficulties refer to :

- a) Informing the children / the students and the parents on the items of knowledge, the capacities and the instruments needed for knowledge and self-knowledge ;
- b) The necessity of providing psychological counseling to the children that have social and emotional problems ;
- c) The drawing up and the putting into practice of the personalized intervention schemes for correcting, remedying, improving the general and specific learning abilities and skills – the personalized intervention for the learning difficulties ;
- d) The importance of the orientation towards certain types of schools and additional services (physician, psychologist, social worker etc.) when needed.

Counselling is performed directly with the children or indirectly, with the help of the didactic staff who work with the children during classes and with that of the parents, who can support the child's learning process. The qualified people / the professionals who deal with the recovery, compensation or correction activities for intervening in the learning difficulties are different, subject to the organization of some specific supporting structures related to their direct fields and tasks.

Thus :

- the psychological and pedagogical advisor (who deals with the general and specific learning problems at the individual and group levels) has in mind, in reference to the intervention issues, the following : the construction and the functionality of the general learning instruments (general and specific abilities, skills and capabilities), the focusing of the attention, social and emotional inter-relationships, learning rhythm (slow or inappropriate), the use and the exercise of the logical and mathematical structures (argumentations, algorithms, the operability of the thinking), the decision making, the conflict management and the complex process of communication and so forth ; the advisor's activities are meant for the students, for the teachers and for the parents, as well as for the necessary links between these actors of the education, in order to provide efficiency to the didactic process – both at the individual level and at the level of the group-classroom and of the school institution ;

- the speech therapist deals with the detection, the complex examination and the personalized intervention in case of the language difficulties and disorders ;

- the support teacher, the itinerant teacher and other didactic people, who intervene for solving the learning problems by various practical means of integrating the children with special requirements or for supporting the normal school in fulfilling the tasks of the inclusive school (for all the children) ; when it comes to directly intervening in the didactic activity, we have to think about the type of intervention that can support the didactic process and its protagonists. In the literature the things are not completely clarified (as the terminological delimitation of the learning difficulties is not either) – one speaks about new roles that the didactic staff can play in order to become : a resource teacher, a tutor, an advisory teacher, an itinerant teacher or a support teacher (amongst all these new kinds of teachers there is a link determined by the need of an intervention – in the classroom and outside the classroom – for solving the learning problems ; the appearance of these new teachers / professional profiles is caused by the need to render normal schools flexible with an aim to provide the inclusion, the integration and the adaptation of the first children and to integrate the children with special educative requirements) ;

- the educators / the school masters / the teachers get involved in the approach of the learning difficulties by activities such as : the individualization of learning (depending on the age and on individual particularities), the use of the flexible and open teaching-learning strategies, the appropriate arrangement of the educational enclosure and the creation of an appropriate educational environment, the valorization of the social relationships at the level of the classroom and of the school in favour of the learning process and the furtherance of the learning process by cooperation and of the educational partnership (didactic staff-student, didactic staff-support teacher, didactic staff-school advisor, didactic staff-parents, student-student/tutorship, student-parent and so on).

- the parents notice some cognitive behaviours of their children from early ages and take their children to a specialist, while cooperating with all the people involved in the intervention, with an aim to recover, to compensate or to correct the learning difficulties.

THE MORPHOLOGIC SIDE OF THE LANGUAGE, SPECIFIC FEATURES IN THE HEARING IMPAIRED CHILD

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Auszug

Aufgrund dieses Artikels versucht man die Gestaltung des Kennzeichens der morphologischen Seite des Sprechens aus der Aussicht einer psychopädagogischen Herangehung. In Hinblick der Herangehung der morphologischen Seite des Sprechens aus dieser Aussicht, benötigt man eine sprachwissenschaftliche und psychosprachwissenschaftliche Grundlage, wodurch die Einzelheitserscheinungen, beginnend ab dieser Stufe, in der Sprachstruktur unterstrichen sind. Im Falle eines Kindes mit Gehörangel, in Hinblick der Heranziehung und Bewertung der morphologischen Seite des Sprechens, sind diese grundlegenden Aussichten in der Begrenzung einiger Methoden, Techniken und Arbeitsverfahren verwertet.

1. Morphologic side of linguistic system

The morpheme is the smallest structural and functional unit of the morphological side, capable of carrying information. This is the smallest unit characterized bipolar, by expression and content (Stan, 1996).

Because the linguistic system is integrated and integrating structure, simple structures are an integral part of more complex structures; morphemes in their turn are composed by phonemes. The difference between a morpheme and phonemes is that, as the morpheme is a complex linguistic unit, the phoneme is only characterized by expression unit.

Marking the morphemic structure of a word has great importance for configuring the morphologic side of the linguistic system, for determining grammatical categories and differentiating them. Besides this, the morphological analysis is important from historical point of view facilitating the understanding of the change of a mother language in a diachronic approach.

The number of phonemes, as well as morphemes in a word is variable. For example the word *neștiute* (*unknown*) contains *four* morphemes:

- *ne* (un) the expression of negation
- *știut* (*known*) is participle of the verb *a ști* (*to know*), formed in its turn by two morphemes:

The plans of intervention in the educative services must indicate the following educational bearings for the child / student, subject to the established goals :

- the wished for / targeted level of integration ;
- the necessary adjustments to the learning rhythm ;
- the observance of the pedagogical principles ;
- the complementary services and the required personnel ;
- the necessary specialized equipment ;
- the financial resources needed for the means, for transportation etc.

The educational plan of intervention in solving the learning difficulties is a personalized intervention scheme that has the following components (E. A. Vărășmaș, 2004, p.176-177) :

- ▶ initial information on the child and on the problems that represent his/her special educative requirements at that time (these ones are obtained by : psychological tests, school tests, observations, discussions, social investigations, the study of the products of the activity, the analysis of the school results etc.) ;
- ▶ the evaluation of the problems (under the form of their enumeration or of the drawing up of a prescriptive diagnosis) ;
- ▶ the anticipation of some results (by the initial prognostication and by the description of the key moments of the intervention) ;
- ▶ the putting down of a/some initial examination(s), of some periodical examinations and of a final examination ;
- ▶ the description of the intervention methods and of the means to achieve that ;
- ▶ the steps of the intervention, adapted according to the type of the problems encountered and individualized ;
- ▶ the recording of the progresses ;
- ▶ the putting down of the intervention results and periodical observations ;
- ▶ the support forms selected by the partnership with the specialists, with the family, with school and so forth ;
- ▶ the parents' approval and a form of rendering them responsible jointly with the specialists involved.

The educative intervention scheme has got several functions :

a) educative planning (the plan helps to fix the objectives and to draw up the necessary interventions and resources ; it enables the establishment of an agenda for fulfilling the objectives and ordering the priorities – the plan sets up the necessary steps, while fragmenting and articulating the intervention steps)

Example : The 'Six W' model (E. A. Vărășmaș, 2004, p.178) refers to :

- who – the students who develops the steps specific to the intervention ;
- what – the necessary interventions ;
- who still – the intervener (who is either the speech therapist or the advisor that deals with the learning problems or a support teacher) ;

- how – by what means and resources ;
 - which place – the necessary educational environment ;
 - when – the agenda of the intervention measures and the steps needed for that.
- b) communication (has both the status of an objective to be reached and of a didactic means, so it functions both as an objective and as a means : the child has to express his/her perceptions on the situation and the elements that he would like to modify ; the people who draw up the plan stay in touch with reference to the child's needs and to the best methods to put them into practice) ;
- c) the participation, the concert, the focus and the coordination : one favours the distribution of the responsibilities and the determination of each participant's roles, as well as of the relationships and the inter-relationships that are created amongst the participants who are called to make systemically structured, coordinated and concerted actions, so that the achievement of the objectives may become possible ;
- d) the retroaction : following the student's progresses and the revision of the plan (if such case may be) : changes, reorientations, eliminations, amendments, intervention alternatives and so on.

The best plan of educational intervention is the one that fits the child / his/her requirements / needs and its efficiency is totally dependant on the intervention and recovery program that enables the planning, the coordination and the concert of the personalized / individualized resources and services, while providing the unity and the internal coherence of the individualized plans.

7. Conclusions

Family is the children's main source of support when they face a problem, especially if this one is linked to school. However, a large part of the children who have migrant parents declare that they do not appeal to anyone when it comes to a problem linked to school. Furthermore, the statistics show that in some cases the leaving of one of the parents causes the deterioration of the relationship between the child and the parent that remained at home, be this the mother or the father.

For the time being we cannot speak about an alarming number of children with school problems, but there are quite many cases of students with poorer results, with more absences, with a lowered grade for the behaviour or simply cases of children who have no pleasure in attending school. For the children whose parents have left to work abroad school represents an important factor of stress.

The first subject of the majority of the telephone calls between the children and their parents is represented by the bearings linked to the school situation. There are thousands of Romanian children living burnt by their missing the parents left abroad for working. Their suffering often ends up tragically. There are ways of fighting the depressive phenomenon in case of the children with immigrant parents, but the authorities do nothing, as at this moment there is no legal document that actually supports this special category of students. More and more children 'temporarily orphan' are doomed to disappointment

because of the fact that the local authorities are not interested in allotting funds so that they may benefit from an appropriate care and psychological counseling. There are means for an early detection of the depressive children that are likely to arrive in limit situations, but they have not been yet discovered by the factors rightfully competent to take measures.

As an operational method for acting, the establishment of the differential diagnosis is very important. The student with learning difficulties may be recuperated if he/she attends personalized intervention programmes that carefully include : objectives, proper recuperation activities, specific methods and means, the duration of each activity carried out and the forms of the periodical and final evaluations.

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communication. From a psychological point of view these noticed phenomena is normal, for being able to communicate acts and events, is necessary to name the elements that determine those facts and events. Therefore, it is normal that the child learns to name the objects, then to use those objects for finally to use them at a sentence level. From a psycholinguistic point of view the fact that the stress is mobile, in verbal flexion, could be a cause to be added to other causes, maybe of greater importance, in explaining the late usage of child verbs. This possible cause can be taken into account when working with hearing impaired persons during hearing training, as well as in language therapy, in view of adapting the linguistic material used in the therapy.

There is a single verbal form that has a fixed stress, this being the imperfect tense and this aspect is important because it allows for determine the order, of introducing verbs in hearing training. Thus imperfect will be used first, being aided especially from this fixed position of the stress during conjugation.

Following the position of the stress that may be on the radical (R) as well as on the termination (T), more stress levels could be determined. Thus, present is distinguished by a stress structure common in indicative conjunctive and imperative (second person, singular and plural), structure, that is achieved in three different ways (Goga, 2001):

A=’RT, ’RT, ’RT, RT’RT’RT’, (cânt, cântă, cântăm cântați cântă- to sing);

B=’RT (fac, faci, face, facem, faceți, fac- to do);

C= RT’, (lucrez, lucrezi, lucreaza, lucrăm, lucrați, lucreaza- to work).

A group is composed by indicative verbs ended in –a, -ae, -i and -î

B group is composed by infinitive verbs ended in –e, and C group the ones ended in a (-ez), i (-esc) and –î (ăsc).

The imperfect and almost similarly often, the perfect bears the same stressed structure, RT’: adunam, adunai, aduna, adunau, adunat, adunau, and (adunase adunaseși, adunase, adunaseram, adunaserati, adunaseră)- to gather,

In present simple two stress types can be noticed:

1) RT’ (adunai, adunasi, aduna, adunaseram adunaserati, adunara- to gather);

2) RT’, RT’, R’T, R’T, R’T, R’T (zisei, ziseși, zise, ziseră, ziserăți, ziseră- to say).

This rather difficult structure, on the bases of which the accentuation of the perfect simple, entitles the consideration of this verb as rather problematic, not only for the hearing impaired but also for the hearing persons, thus, it should be introduced in hearing training in later stages.

From the impersonal modes the gerund is categorized by the following RT’, (cântând- singing) stress structure.

In the infinitive forms two accent structures can be shown:

1) RT’ (a cânta’- to sing, a vedea’- to see, a fugi’- to run);

2) R’T (specific for e verbs: a pri’nde, a țe’se- to knit)

Participle also has two stress structures:

1) RT’ (cântat-sang, văzut-seen, început-begun, venit-come, coborât-put down);

2) R’T (specific to –e verbs: prins-caught, fript-roasted).

1. the root *ști* (know) and
2. the termination (*u)t*,
 - *e* marking plural of feminine or neutral gender.

Morphemes are various in form, combining them insure the development of the child’s vocabulary. In language therapy knowing these is important for the therapist but most of all for the child is the knowledge the way to combine the morphemes according to actual linguistic norms in order to express him and communicate to those around. Thus three types of morphemes can be determined: free morphemes, affixes and flexional morphemes (Guțu-Romalo, 1967)

- **Free morphemes** independent words may appear in composed words: floarea soarelui (Sun flower), untdelemn (table oil), Piatra-Neamț (a town name in Romania), gura-leului (a flower name in popular terms).

This type of morpheme is of great importance for a hearing impaired child whose vocabulary is limited. Through combining morphemes, in this way, the hearing impaired child, whose morphologic and lexemic sides of the language are less configured, may communicate ideas, intentions and opinions despite his limitation. He does not have to know grammatical rules in order to combine and to build new words, his vocabulary may be very poor, and knowing to put the words together, using them as free morphemes can be of great help for him while communicating.

- **Affixes**, these can not exist independently, but are added to words in order to modify their meanings. They can be sorted after their position of attachment in suffixes and prefixes. Examples of prefixes: **ne-**: *nefericit* (*unhappy*), **în-**: *întinerit*, (*grow younger*), *înalbit* (*bleach*). Examples of suffixes: **-tate**: *comunitate* (*community*), **-andru**: *cățelandru* (*big dog*), *copilandru* (*big boy*).
- **Flexional morphemes**. Inflexions are morphemes that attached to some words from some categories serve to as flexional factors or in realizing grammatical agreement, for example, declination of nouns and adjectives, the tense of the verbs. Examples: țară-țări (country-countries), copil-copilul (child- the child), măr-mere (apple-apples).

Another criterion for creating a classification of morphemes is the nature of phonologic elements that represent the expressive side of a morpheme (Iordan; Guțu-Romalo; Niculescu 1967). Morphemes are grouped from this point of view in:

- Segmental morphemes, represented by the phonemes themselves (c+a+s+a- the house etc);
- Suprasegmental morphemes, represented by stress and intonation (an example of suprasegmental morphemes realized through stress “cása (the house)” and “casá (to make a cassation)”; examples of suprasegmental morphemes realized through intonation are: “Vine mama. (Mother comes.)”, “Vine mama! (Mother comes!)” “Vine mama?” (Does mother come)

Intonation even if it manifests itself only associated with a sequential segment, may serve, independently as a way of expressing a unit of content, therefore may represent itself a morpheme. Thus a sequence such as "Vine mama" (Mother comes) may be associated with the idea of statement or question, as it is followed by rising or falling intonation (in righting: "Vine mama! -Mother comes!" or "Vine azi?- Does she come today?"). Intonation frame represent itself a morpheme.

Stress is, associated, usually with one or more segmental elements from the structure of the morpheme. Thus for example, in Romanian verbal flexion an "-ă" morpheme is registered in (cânt/ă (sing), this morpheme indicates indicative, present tense third person singular) like structures and an "-ă", in (cânt/ă (sings), this morpheme showing indicative, past tense third person singular). The "-ă" like morpheme is composed by the segmental component "ă" and the stress, the intensive suprasegmental component, while "-ă" of the present tense component, indicative mode, is reduced to the segmental element "ă", opposing and differentiating from the morpheme, that materializes past tense through the lack of stress. The suprasegmental difference marks the two homonym structures relied through the two morphemic segments.

A morphemic role in Romanian is given to intonation itself, sometimes, in vocative and intonation structures (Dascălu-Jinga, 2001): vocative is often identical in segmental structure with nominative, and imperative with present indicative. In these situations a differentiation can be made through marking intensity, marking becomes possible through stress, the one that can differentiate the two forms. Thus the following structures certify materialization of the intonations morphemic role: "Ioána" (this expresses a noun in nominative) and "Ioana!" (the same sound sequence, from a segmental point of view, is being suprasegmental defined, expressing a noun in vocative). The linguistic structures are categorized by the same chain of segments, but are different on a suprasegmental level, differently are the verbs, the distinction materializes a verbal paradigm, the mode. Thus the sound sequence characterized by a neutral intonation curve "șezi (sit)" marks an indicative verb, while the same sound sequence, but characterized by an descending intonation curve marks an imperative verb "șezi! (sit!)". The presence of a distinct intonation, as well as an intense stress (of a strong syllable) differentiates the vocative from nominative, and imperative from present indicative. A higher intonation is associated with a rise in tone, thus modifying the intentional frame. Thus, on this level in the speech chain the intertwining of the two suprasegmental morphemes, the intonation and stress can be highlighted. This aspect underlines the necessity of a holistic approach to language, through the communication process, developing communication abilities must be the main goal of the entire process of language rehabilitation, but also of the instructive-educative activities from the "Language and Communication" curriculum area.

2. Particularities in the morphologic side of language in hearing impaired children

The morphologic side of the language, in hearing impaired children is difficult to configure, due to the multiple affliction. Thus the hearing impaired child dose not use complex linguistic structures, linking words (prepositions), uses tenses, inadequate to the syntactic structures, structures without verbal group, constituted mainly on the fringe of the nominal group.

Pufan's research (1982) shows that from a percentage point of view the grammatical categories of grater importance for the hearing impaired child is the nominal group: noun, adjective pronoun. The verb grammatical categories, as well as the inflexible speech parts are difficult to use in day by day speech.

Verbal flexion is problematic, not only because these children have a hard time selecting and combining and selecting adequately morphemes, those that materialize contents that represent verbal tenses, verbal modes, number and person, and because the stressed structure is mobile in verbal flexion. Moving the stress from the root to the suffix during flexion dos not occur during nominal flexion, that makes the likelihood for them to accrue and to be used in the process of communication of these grammatical categories.

Next it will be presented de difference between fixed and mobile accent, focusing on the way in which position of the accent during verbal and nominal flexion.

2.1 Stress on the root of the words: fixed and mobile

Stress in Romanian can be permanent and mobile. *The stress is permanent during declination, conjugation and derivation, aspect that means that the stress remains on the syllable from the initial form, or on the syllable from the un-derived word. The stress is mobile when in flexion and derivation passes from the root to the affix or the other way round* (Gruță, 1998).

In Romanian, the permanent stress is a base characteristic of declination. Thus, nominal flexion of Romanian nouns is characterized by the fixed position of the accent. This is on the syllables of the radicals, aspect illustrated in the following examples: *casă* (house), *căse* (houses), *căsele* (the houses). Only a few nouns have a mobile accent, between the radical's limits, *radio* (radio)-*radiouri* (radios)-*radioul* (the radio), *sóră* (sister) -*suróri* (sisters), *nóră* (daughter-in law)- *nuróri* (daughters-in law).

In adjective and pronouns it is maintained, likewise, the permanent position on the same syllable: *înált-înáltă* (tall for masculine and for feminine), *înálte-înálți* (tall in plural for both masculine and feminine). Regarding Romanian verbs it is noticed the mobile stress; this oscillates between radical and termination. Thus, the passage from one person to the other in the present and perfect simple tense leads to the changing of the stress: *noi cântám* (we sing)- *el cântă* (he sings).

This last aspect is extremely important explaining somewhat the later ontogeny appearance of verbs in the child's communication. Nouns, followed by adjectives and pronouns, the naming grammatical class, then verbs appear first in children's

consideration the fact that the children are hearing impaired. For example, if we want for them to build a synonym, a compounded word for “swallow”, we can offer the child support in many different ways, either by questions: “What is the swallow, animal or bird?”, “Where does she fly on?”, or by directly giving the two words that are to be combined, in such a way in order to be obtained, in the end, a new word or a new phrase, by simple putting together. Thus, the swallow is the sky bird, the fast flyer, the queen of the sky etc.

Other types of exercises can be also those of construction, by adding suffixes and prefixes, to longer words, the reciprocal being also possible. In order to illustrate this aspect can be analyzed the following examples: “nemaipomenit-unbelievable”, “rediferențiatore-re-differentiator”, “binevoitoare-kind”, “păturică (little blanket)– pătură (blanket)”, “păpușică (little doll) –păpușă (doll)”.

It is also insisted on declining upon gender and numbers the nouns and the verbs conjunction upon number and person. This moment can be valorized through developing the linguistic creativity inclusively from the perspective of the words that are flexional stressing manipulation. It is well known the fact that the stressing patterns are spectacularly changing in the verbs conjugation cases (Stan, 1996, Goga, 2001, Toma, 2000). These aspects can be used by training the child to catch the involved differences, both acoustic and meaning ones.

Conclusions

Through this article it is realized a delimitation of the morphological side of Romanian language from a linguistic, psycho-linguistic and psycho-pedagogic perspective. The stress is put on describing the inventory of the segmental and suprasegmental Romanian morphemes and on their role in the communicative competence. Thus, it is analyzed the case of the hearing impaired child and of the way his morphologic side of the language is built.

There are also given a series of examples for illustrating the way Romanian language configures from this point of view, the point of view of morphology and morphemes. It is important to be mentioned the fact that in English the approached morphologic aspects are not to be found, this is why in the text there are kept the Romanian variants, just a simple translation being offered.

The interests in this aspect concerning language is given to the author by the fact that morphology is the key aspect of Romanian language and this aspect tends to be more and more ignored by the Romanian speakers. There are even researches who underline that in a close future our language will lose the grammatical paradigms. The grammatical forms already tend to be exclusively analytically expressed in informal situations, in comparison with the literary requirements of expressing them synthetically. Under these circumstances this topic appears even more necessary to the teachers and to the psycho-pedagogues, the problems at this language level being even more serious in the disabled children.

The stress problem in Romanian underlines its importance in realizing a functional communication. Although it is normal for a native speaker with linguistic competences not to bear in mind the position of the stress, but to speak according to it (otherwise we could not understand ourselves). The speaking impaired and language deficient child must learn the correct way to use stress, in order to communicate in his mother tongue, or he could not learn it if the hearing training and language therapy are not structured to use these structural aspects of language, the expression linguistic structure.

3. Examples of frequent mistakes found in the morphological side of language of the hearing impaired child

Linguistic forms used by the hearing impaired child are less complex structures, with inflexional grammatical structures (undeclined and unconjugated), inadequate for the syntactic context. In order to illustrate these defective aspects the following linguistic structures used by hearing impaired children can be presented: “noi este prost- we are stupid”, “Crăciun naștere Iisus- Christmas Jesus birth” (the verb is missing), “pomul est the Christmas tree is”, “tu făcut rău- you done wrong”.

In the presented linguistic structures it can be noticed the lack of certain grammatical categories: prepositions “de” and the verb “este-is” from “Crăciun naștere Iisus- Christmas Jesus birth”; the auxiliary verb: “a avea-to have”, the missing second person auxiliary in present tense, “ai” from “tu făcut rău-you done wrong”. Differently from a normal child, the hearing impaired has great difficulties using predicative as well as auxiliary verbs (Kelly, 2003). For the hearing impaired child the usage of surface structures of the language in statements being organized on a linear model, this being interpreted as a chain of lexical items, not a grammatical one (Lepot-Froment, 1999 apud Anca, 2007).

Thus the difficult usage of the grammatical category can be explained through morphemic analysis that mirrors the hierarchic chain of speech. The central unit of the morphemic organization of a linguistic structure is a verbal one, this being the most difficult for the hearing impaired child. In order to counteract this aspect, in language rehabilitation activities, it is necessary accentuate the hierarchical of the speech chain, graphically framing it on a vertical order, through marking the central unit.

The interrogative verbal forms, as well as the negative ones are challenging in the hearing impaired child’s speech, because their configuration is dependent on the language context. This aspect highlights the tight bond between the sides of the language, the morphologic being directly in relation, in this case with the pragmatic one, but also the semantic one, as well. Attaching ascending or descending intonation curves as well as mixed to the statements that contain verbal structures interrogative or/and negative, is the major difficulty in the pronunciation of this type of structures. In order to attach an adequate intonation curve the hearing impaired child must prove a correct flexibility in manipulating his voice and registering tonality, this flexibility requiring special training (Leakey, 1991). On a graphic level, writing, the difficulties from the pronunciation level is easily identifiable.

The “nu-i așa?- Isn't it true that? ” interrogative structures type are the most challenging for a hearing impaired child (Anca, 2007) considering that the answer implies a complex cognitive process, and the answer, from a linguistic point of view is more elaborated, that highlights the interdependence between morphological and semantic of the language. Direct questions are less challenging for the hearing impaired child, providing that the attached intonation curve is ascendant, this allows for an increase in the intelligibility of the received message. Of course the formulation of an answer is not too challenging providing that the child has only two options, either the affirmative adverb “da-yes” or the negative one “nu-no”. Interrogative structures with a medium level of difficulty for the hearing impaired child are the partial direct ones, which imply a tone rise just on the interrogative adverbs: “când-when”, “unde-where”, “cât-how”, “de ce-why”, “care-who”, “cu cine-with who” etc. through the increased tone the interrogative adverbs facilitate the grasping of the sentence's essential content. Once received this content, intuiting the answer is easily to be done. Differing from total, direct interrogative questions, the partial direct ones are more activating, these requiring a higher degree of involvement from the child. This hierarchy, from the difficulty of receiving the interrogative structures may be followed through in activities that ensure a productive training of hearing and language.

The usage of mode, time and place circumstantial adverbs is lacking in the hearing impaired child. Considering the validity situation the grammatical category of circumstantial adverbs is introduced in the child's speech in real communication situations. At this level too the relationship between the language sides, is highlighted, a relationship made completed through the materialization of language in the process of communication. The pragmatic side of language is the one that highlights, at this level, as well the need of an integral implementation of language. If introducing circumstantial adverbs is done spontaneously, in a normal child, in real life situations, in case of a hearing impaired child because of the impairment this aspect is varied according to the sensorial limits. Contextual manipulation of learning language is made more difficult by particularizing the reference triangle: hearing impaired child, parent (sender of new information) and determined reality.

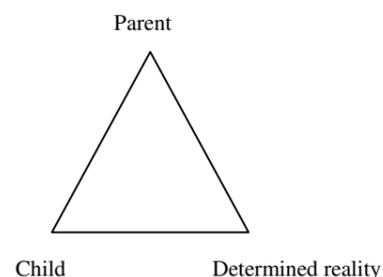


Figure 1. The reference triangle

Providing that the reference person wishes to relay the hearing impaired child information regarding concrete reality, through verbal or sign language the child is forced to change his sight from the discussion partner, sender, on the diminished reality, thus communication is less functional, the child's information gain being reduced.

Acquiring grammatical aspects that have time, as content, is made even more difficult, by the sign language, because its usage coagulates simultaneous cognitive processing type, the mental image being an iconic one. In these conditions time, the one that evolves sequential type processing, based on mental and verbal representation is inaccessible for the hearing impaired child that undergoes speech therapy. On this level is highlighted the dependence between thought and language, the method of linguistic expression of time (through verbs and adverbs) being dependent on the function of operating structures (Frereiro apud Radu, 1991). Thus, verb and adverb use both in normal and hearing impaired child is dependent on cognitive maturity.

If this maturity is delayed the impact of the hearing impairment on the cognitive structure, in case of the hearing impaired child is identified through late usage of verbs and adverbs grammatical categories compared to the case of the hearing child.

4. Activities, methods and procedures for training and assessing the morphological side of language.

In order to train and to assess the language morphological side there can be used the following methods and procedures: the phonetic-analytical-synthetic method, the fill in the incomplete sentences, morphemic paradigms construction through lexical families, the noun declension paradigm and the verb conjugation paradigm, phrases ordering, generating linguistic structures on a certain pattern, the selection of the adequate termination to the flexional contexts for the flexible grammatical categories, correction from a grammatical point of view of a text that presents mistakes, to compose words by suffixation and prefixation, to compose new words by putting together free morphemes, to use the new obtained words in explaining contexts.

The procedures mentioned above can be completed with exercises that aim the training of the morphological side of the language, but also the hearing training. Thus, there can be organized exercises of reproducing based on hearing of the trained linguistic structures, the identification, with the help of the residual hearing of the spoken structures, the differentiating between two structures with different morphologic value and the differences explaining.

In order to stimulate and to build the abilities of morphemic combination it can be used the Gordon method (Synectics) (Ionescu, 2005), this method allowing the stimulation of the linguistic creativity in the morphological language side. Thus, it can be found different variants of the method that offers the possibility of the exclusively training of the morphologic side of the language. A synectics variant would be the one through which can be offered clues, to identify the area, the field they are able to make the required linguistic associations, having into

- “Condiții privind ...” should not be translated by “conditions concerning...”, which, although a grammatically correct utterance, is not common in the English legal language.

We need to reach a deeper understanding of the meaning implied by this title, and of the specific content covered by the concepts in question. The first thing that students are encouraged to do is try to separate the text into lexically meaningful units, translate them and then check the collocability as well as the semantic/grammatical/textual appropriateness of their utterance.

A good dictionary or an on-line concordancer (if students have no or little knowledge of this specific business sector) would reveal the occurrence of “*personal accident*”.

Another issue we need to tackle is that, semantically speaking, the text above does not refer to “condiții” understood as *conditions*, but as *terms* (of a contract).

Our solution for the title would be “*Personal Accident and Travel Medical Insurance Plan*”, which, in our opinion would render, most closely, the lexical, morphological and semantic load of the L1 text. We have chosen to leave out the word *abroad* or *international* (in the context of *international travel*), since some insider knowledge of the insurance field would clarify that *travel* usually refers to *international travel*.

One of the chapters in the above-mentioned contract reads:

“Începutul și încetarea răspunderii

8. Răspunderea Asiguratorului începe la data menționată în poliță ca fiind data începerii perioadei de valabilitate a asigurării, dar nu înainte de trecerea frontierei țării de origine, pentru efectuarea călătoriei în străinătate. și încetează la data expirării perioadei de valabilitate înscrisă pe polița de asigurare sau din momentul în care Asiguratul trece granița în țara de origine.”

We have previously stated that grammar translation is counterproductive and that we encourage the truncation of L1 into lexical chunks, which are then translated into L2. The final step would be the refinement of the translated utterance from a paradigmatic, stylistic and syntagmatic point of view.

The head noun is “*răspundere*”. This is the first problem that arises. In *Dicționar român englez. Romanian-English dictionary* (Levițchi, 1998: 810) the only translation we can find is *responsibility*². One will also come across some of the most common phrases in which the word occurs. Bantaș and Năstăsescu’s *Dicționar Economic englez-roman roman-englez*

² *responsibility* n. a duty to deal with or take care of sb/sth, so that you may be blamed if sth goes wrong (Oxford Advanced Genie CD ROM)

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DEVELOPING TRANSLATION TECHNIQUES IN A BUSINESS ENGLISH CLASSROOM

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Zusammenfassung

Dieser Artikel bringt ein mögliches unterrichtendes Paradigma hervor, das den pädagogischen Nutzen der unterrichtenden Übersetzung Techniken zu den Wirtschaftswissenschaften-Studenten neu bewertet. Bei der Zurückweisung der einseitigen strukturellen/grammatischen Übersetzung Methode, schlagen wir ein Modell vor, das auf der lexikalischen Annäherung basiert wird, die auf das lexikalische zeichnet, das paradigmatisch, sowie syntagmatische Gleichwertigkeit zwischen der Ausgangssprache und der Zielsprache.

Introduction

The last decades have witnessed a growing tendency among ELT practitioners to disfavour translation as a classroom technique. Teachers are showing increased predilection for tasks based on authentic texts, considered as the only linguistically reliable (re)sources. Grammar translation techniques that were common decades ago turned out to be rather ineffectual and artificial, and for the sake of a more communicative-functional approach, most non-native teachers of English nowadays avoid using translation in class. Nevertheless, one has to take heed of the natural tendency in learners to translate: “...rather than ‘thinking in English’, when you cannot express yourself in the L2, you naturally fall back into L1, and search for a translation from a starting point in L1. Translation is thus an instinctive part of the way the mind approaches learning a second language.” (Lewis, 2002:60)

The pedagogical potential that translation activities may bring into an English class is therefore not to be ignored. Translation activities and tasks may be designed in such a way that students can perceive and build on the relationships that exist between L1 and L2, while at the same time avoiding the counter-productive word-for word translation. In the case of ESP students, in particular business and economics students, translation could turn into a challenging and rewarding undertaking, considering that their future career will, most probably, entail various translation activities.

It is as yet not clearly defined either by theorists or by practitioners the role and extent of translation tasks in the linguistic training of university students. According to

Wilga Rivers, “much of the discussion of the place of translation in language teaching has been at cross-purposes since the kind of translation and its function in the language learning process have not been specified” (Rivers and Temperley, 1978: 325). It is surely not the purpose of an ESP course for business students to delve into the theoretical aspects of translation theory. One should rather focus on the most appropriate translation techniques that students need to acquire in order to develop this professional skill. Furthermore, we should make a distinction between the role of translation in language learning and teaching translation as a skill in its own right. Our endeavours as educators have to encompass both dimensions, since we all know that a student with a sound knowledge of the English language is not necessarily a gifted translator. Besides mastery of the English language structures and functions, translators also need to be well-grounded in the strategies, techniques and mechanisms at work when transferring meaning from one language into the other. Teaching translation to students who are learning the target language at the same time implies paying heed to two major issues: first of all, we should be aware of the fact that learning how to cope with translation-related problems is not exactly the same as learning the language itself, although they happen concurrently. There are many difficulties such as translation of economic concepts, national economic system-related terminology (the Romanian system of accounting is still very different from the Anglo-Saxon one), which fall in the categories to be taught as translation-related issues. Secondly, it is important for the teachers to decide which language teaching method is better to be used along with the method adopted for teaching translation as a craft.

Translation calls for the analysis of the potential of both L1 and L2, in terms of lexical, morpho-syntactic, stylistic, textual and in some cases (according to the genre) cultural equivalence. We have chosen to start with the lexical equivalence since, as Lewis (2002: 3) pointed out, “language consists not of traditional grammar and vocabulary but often of multi-word prefabricated chunks”. In other words, language consists of grammaticalised lexis, not lexicalized grammar. Therefore, we have to raise our students’ awareness as to the importance of finding the best lexical units, without ignoring the generative element of grammar.

Sample translation tasks

The text we chose for exemplification purposes is from the language of insurance and we will in the following analyse some problems that an insurance text may raise in terms of translation equivalence at different levels, and how these could possibly be dealt with.

The following Romanian text “*Condiții privind asigurarea de accidente persoane și asigurarea medicală pentru călătorii în străinătate*¹” brings forth the issue of the specific language used in an insurance contract, imposed by the Romanian legal language norms:

- the elliptical “*accidente persoane*” (the word-for-word translation would sound illogical, as well as grammatically incorrect: “... accidents people/persons”)

¹ literally translated as: “Conditions concerning the insurance for accidents people/ people's accidents) and the medical insurance for travels abroad”

L1 lexical chunks	L2 lexical chunks
Răspunderea Asiguratorului	Coverage ⁷
data începerii perioadei de valabilitate a asigurării	effective date of coverage
data menționată în polița [data] înscrisă pe polița de asigurare	under this policy
a trece frontiera/granița	cross the border
țara de origine	home country
pentru efectuarea călătoriei în străinătate	in order to travel abroad
data expirării perioadei de valabilitate	the expiry date of coverage

2. Grammatical/paradigmatic equivalence

The next step is to analyse the issues raised by grammatical equivalence:

L1	L2 equivalence
începe ⁸	shall ⁹ start
nu înainte de trecerea ¹⁰ frontierei	not before the Insured crosses the border ¹¹

3. Textual/syntagmatic equivalence

L1	L2 equivalence
trece granița ¹² în țara de origine	returns to the country of origin

The L2 text we therefore suggest is the following:

⁷ see footnote 3. "Coverage" refers to the Insurer's duty to offer protection and pay benefits in case of an accident.

⁸ present simple (= starts)

⁹ modal auxiliary *shall*, used in formal language

¹⁰ subject-elliptic in Romanian (= *not before the crossing of the border*)

¹¹ in English the subject should always be mentioned and since there is no cataphoric reference in our context, we need to use an S + V construction. We prefer this construction (finite / time clause) to the non-finite, -s genitive pre-modification + verb-ing + of-genitive post-modification: "the Insurer's crossing of the border".

¹² the textual reference of the phrase "a trece granița / frontiera" (= "cross the border") is actually bi-polar: 1. cross the border out of/leave the home country and 2. cross the border into/return to the home country.

(2003: 637) provides another alternative – *liability*³, which is slightly better, but still not good enough. At this point we have to acknowledge the existence of a "meaning world" of business and economics. We know that the main function of an insurer is to "cover risks" – an insurance-specific collocate, less frequent in other genres. The noun equivalent would consequently be "coverage"⁴. The meaning of "răspundere" is not that the Insurer is or may be held responsible for the damage that occurs, but that they undertake to pay benefits in case of an accident.

"Începutul" [= *beginning, outset, commencement, start* (in Levitchi, 1988: 544 and Bantas and Nastasescu, 2003: 637)] is probably best translated by *beginning*. "Încetarea" [= *ceasing, cessation* (in Levitchi, 1988:544)] may be again problematic. Neither of the two translations found in the dictionary seems appropriate. In the business lexis, a *contract* is usually *terminated* or *annulled* (cf. Business Collocations: English-Romanian Dictionary, Popescu-Furnea and Toma, 2003: 69). An insurance policy *expires*. Similarly, the risk coverage will *expire*.

"Data începerii perioadei de valabilitate a asigurării"⁵ is a lexical unit in its own right and this is how we should try and translate it. "Asigurarea" (= *insurance*) in this context refers, obviously, to the *insurance policy*, which, by definition, is a *contract*. We know that in English, a *contract comes into effect* on a certain *date*. Within the same thematic and semantic area, a *date* will therefore become *effective*. Transformational grammar is indeed very helpful in translation practice.

"Menționată în poliță"⁶ and "înscrisă pe polița de asigurare" (synonymous phrases in Romanian) refer to the legality of the dates in question. The English legal language norms impose the use of a stock phrase: "under this policy".

The other lexical units are, hopefully, not so difficult to translate: "a trece frontiera/granița" = "cross the frontier/border"; "țara de origine" = "home country" ("country of origin" (= literal translation) is rather used in connection with export goods)

Let us now turn our attention to the two possible translations of the above text.

A. Grammar/word-for-word translation

In the first case, that of word-for-word rendering, we will break the sentence into morpho-syntactic categories:

I.	Main clause	{Răspunderea Asiguratorului începe la data menționată în poliță ca fiind data începerii perioadei de valabilitate a asigurării, dar nu înainte de trecerea frontierei țării de origine, pentru efectuarea călătoriei în străinătate}
(coordination)		și

³ *liable* adj. the state of being legally responsible for sth (Oxford Advanced Genie CD ROM)

⁴ *coverage* n. the range or scale of protection given to the insured under an insurance policy (Adam, 1989:150)

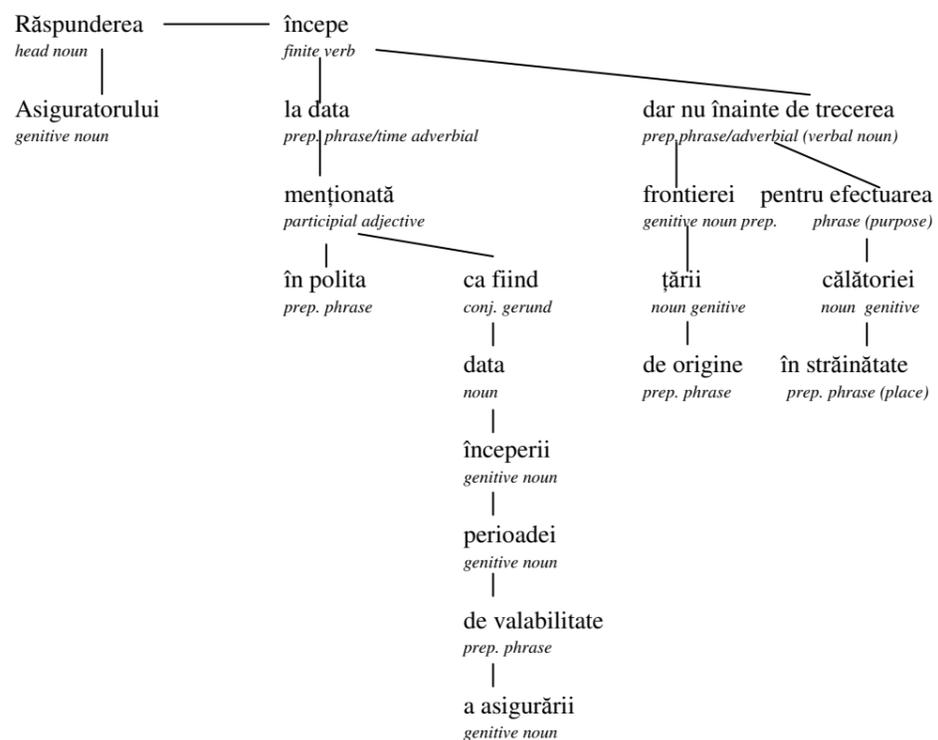
⁵ literal translation: *the date of commencement of the insurance validity period*

⁶ literal translation: *mentioned/designated in the insurance policy*

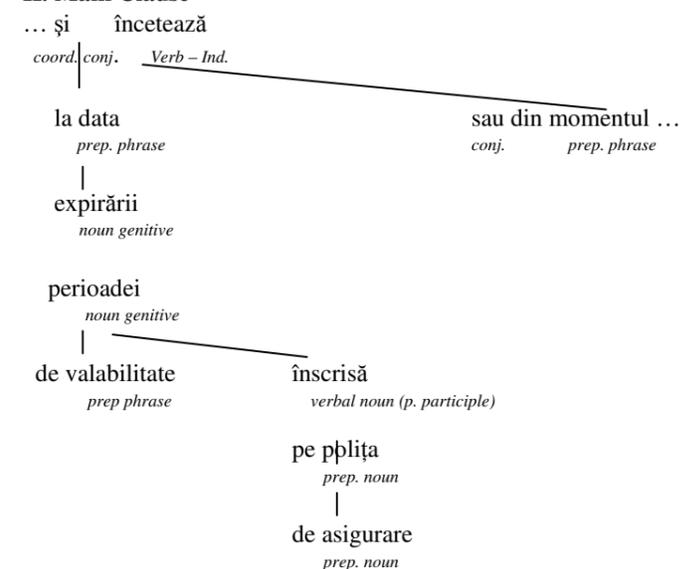
2.	Main clause	{încetează la data expirării perioadei de valabilitate înscrisă pe polița de asigurare sau din momentul}
(subordination)	în care	
3.	Defining relative clause	{Asiguratul trece granița în țara de origine}”

In Romanian we have a complex sentence made up of two main clauses (coordinated by “and”) and a defining relative clause.

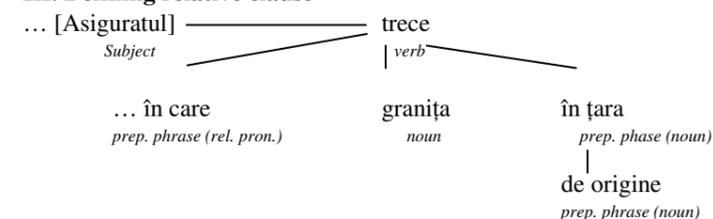
I. Main Clause



II. Main Clause



III. Defining relative clause



If we ignore the considerations that we have made in terms of lexical and semantic equivalence, a grammar-translated L2 text would read as follows:

“The Insurer’s liability begins on the date designated in the policy as the date of commencement of the insurance validity period, but not before the Insured crosses the border of the country of origin, in order to take the trip abroad | **and** ends on the expiry date of the validity period written on the policy or at the moment | the Insured crosses the border to his country of origin.”

The text sounds grammatically correct, but the meaning is rather obscured and may be rather cumbersome for a native speaker.

B. “Lexical approach” translation

1. Lexical equivalence

The strategy that we have proposed, in line with the Lexical Approach, would first focus on the lexical equivalence between L1 and L2.

Social identities represent ranges of “I” in different contexts or social units which lead to a sort of depersonalization of the person that is, the situations when I become we.

From all the applications of the theory of optimal differences proposed by Brewer M in 1991, at the Romanian university level, Lungu O. (after Neculau A. 1997) underline the fact that social identity is dependent by the context where the individual is, observing from the theoretical model that:

- 1) social identity and personal identity are in contrast one another in definition of a person;
- 2) according to the context, (personal and social) identity extends or restrains.

The same author concludes, mentioning that individuals are subjected to antagonistic forces, usually motivational, when they are defined by:

- 1) the need or necessity to be unique (corresponding to the personal identity);
- 2) the need or necessity to be alike others.

Consequences following the existence of these antagonist processes are multiple; there are two which claim for our attention such as:

- a) in small groups people feel the need to resemble the people around them, because the group is small and the need to be unique is satisfied;
- b) in bigger groups where everyone is alike, people will feel the need to be unique, because the need to be like the others is satisfied.

These facts are according to the studies regarding the affiliation to a group, which demonstrated that the need is bigger in small groups and reverse. Brewer M. naming the point of balance between two motivational forces priory mentioned, **point of optimal distinctiveness** that is, the point of establishing social and personal identities.

After such a conceptual demarche, we can approach the adaptability element. Sillamy N. – Dictionary of Psychology, 1996 said:

- a) a human being has a certain plasticity which allows him to agree with his environment and maintain his interior balance;
- b) the vital process needs a permanent adjustment of organism in order to reestablish an interrupted balance; this adjustment is operated by a certain number of changes between his body and environment because of the double action of the subject on the object (assimilation) and of the object on the subject (accommodation), these two way of interdependent actions combine endlessly in order to maintain the balance that defines adaptability;
- c) J. Piaget says there is adaptability when the organism changes according to the environment, and this variation has as effect a balance between him and environment, favorable for his conservation.

Such a theoretical incursion allows a conceptual and personal approach concerning the necessity of acknowledgment of the factors which help or produce perturbations to the way, how adaptability has or not an impact on student, reported to the university environment form a personal point of view.

“BEGINNING AND EXPIRATION OF COVERAGE

8. Coverage shall begin on the effective date of coverage under this policy, but not before the Insured crosses the border of the home country in order to travel abroad and shall end on the expiry date of coverage under this policy, or at the moment the Insured returns to his home country¹³.”

We do not claim, nevertheless, that this is the only possible translation of the text under discussion. We have only tried to exemplify the way in which one can use the Lexical Approach when translating a specialist business text.

Conclusion

In conclusion, we would like to sum up the stages and strategies of the translation paradigm that we have propounded in this study:

1. Analyse the L1 text in terms of meaningful lexical units.
2. Translate these lexical chunks and check their collocability and semantic appropriateness.
3. Analyse the paradigmatic equivalence of the two texts. Make any changes that are required by the L2 morphological and syntactical norms.
4. Review the different textual/discourse elements that are conducive to an even better/subtler L2 rendering.
5. Go over the L2 text again and scrutinize it globally. Have it checked, if possible, by a native speaker/English teacher/business specialist. You may, even better, try to create corpora of specialist texts in the original language written by professionals in that particular field you have to make translations.

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¹³ one should note the difference in the number of words used in the two translated texts (which, although not essential, may contribute to better readability): in the first

THE IMPACT OF ADAPTATION TO THE UNIVERSITY ENVIRONMENT

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Zusammenfassung

Wenn wir den Eintritt zur Anpassung des Studenten an/in das universitäre Leben beginnen würden, begonnen von Punkten wie Motivation und Identität, werden wir eine andere Sicht der Umwelt entdecken, eine die notwendig ist für die Beibehaltung des Gleichgewichtes welche die Anpassung definiert.

Die Einbeziehung der Anpassung unter die günstigen Faktoren und unter die mangelhaften, führt auf die Dauer zum Ausdrücken der Identität der Persönlichkeit des Studenten.

Die Struktur der „sieben A“ während der Anpassung und der „sieben D“ aus der Sicht der Mängel der Anpassung, erfasst die Art der Decodierung einer Verfassung des Verhaltens - Betragens, ausgelöst beim Studenten zu einem gewissen Zeitpunkt, welche die verschiedensten Folgen haben kann.

Deshalb wird die Anwesenheit im universitären Medium der psychologischen Betreuung, einschließlich des psychologischen Betreuers, ein positiver und entwicklungsmaßiger Schritt sein, wobei man die konzeptuellen und strukturellen Tendenzen der beiden konstanten Akteure in Betracht zieht, welche anwesend sind in der komplexen und andauernden Tätigkeit der Erziehung, welche auch von Seiten der Gemeinschaft zu Akzeptanz und Einbeziehung führt.

So dass durch die zuständigen Instrumente für die psychologische Betreuung, sich der Student finden oder/und wiederfinden kann. Wichtig ist es die Anpassung und Einbeziehung zu wollen, besonders aus der Sicht der Erteilung der psychologischen Fachassistenz.

Schlüsselworte: Zusammentreffen, Einbeziehung, Anpassung, Mängel, Student, psychologische Betreuung, universitäres Umfeld

That's way, the presence of psychological counseling in universities, will represent a new positive and evolutional approach, taking in consideration conceptual and structural trends of the two constant actors of the act of education, determining from community, accept and implication.

Thus, by psychological counseling, student can find himself. It is important to want adaptation and implication especially from the point of view of special assistance.

If we would start the incursion to adaptability to university life, from points like **motivation** and **identity**, we will discover a new perception **on environment**, necessary in

maintaining the balance which defines **adaptability**. Maslow A. (1954) concerning the second image of the pyramid of necessities, starting from inferior to superior:

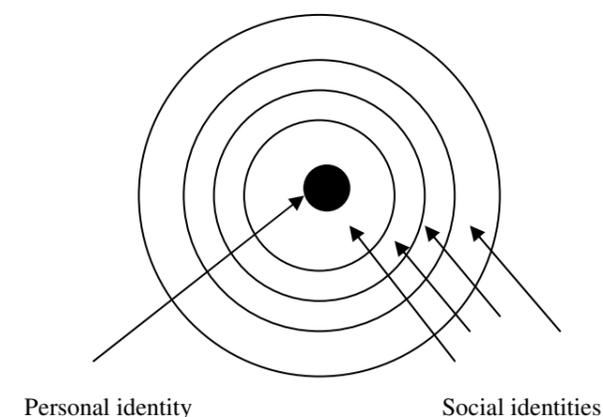
- physiologic (hunger, thirst, sex, rest)
- security
- love and affiliation to a group
- esteem and social status
- knowledge
- esthetics
- personal realization of potential

Adding a few rules such as:

- a) a necessity becomes a driving force of behavior if it is not satisfied
- b) to get to a superior necessity, the prior necessity must be satisfied in proportion of 25 %;
- c) the more we get to the pick of pyramid, the more we meet specific human necessities;
- d) there is no human being which can pass through all the steps of the pyramid;

All these happen when students manifest their **necessity of auto realism**, that's why his place is in the university environment.

It is important to bring the connotations of knowledge by approaching the **social identity**, (Brewer M. – 1991) referring to the university environment and its impact on student's adaptability. This image is the essence of the theory of social identity, where, Brewer (1991), by the concentric circles, represents the "I" to different levels of social inclusion, in different fields. **Personal identity** is the very individualized part of "I" which includes unique qualities of the person and which makes it different from another person, in the most of social context.



Being given both the complexity and the difficulty degree of the problems the Romanian school face, as well as the inherent impact of the school education on the whole social system, the solving of the present difficulties asks for collaboration, cooperation and the partnership of several social category, extremely diverse, such as:

- The personnel involved in the education system;
- The pupils part of the school institution;
- The parents and the pupils' legal sustainers;
- The organizations with non-governmental character, especially the professional associations of the personnel from education field, the parents' and pupils' associations;
- Representatives of the religious cults;
- Economic agents and the representatives of the economic-financial field;
- The unions like structures;
- The central and local authorities.

At the level of every rural or urban community that includes school units, the putting into practice of the partnership may begin by constituting a partnership group that will include the representatives of different social categories and of different institutions of the community. The cohesion and the efficiency of this type of group are conditioned by the assuming and the promoting of several common values for all the involved partners-such as:

- The ensuring of equal chances in education;
- The reviving of the civic spirit and of the communitarian mentalities;
- Promoting the dialogue, transparency and open communication;
- Encouraging the initiative and the participation;
- Developing cooperation and collaboration;
- Basing the discipline and the assuming responsibilities;
- Adjusting the specific conditions with social exigencies at general level.

The fundamental changes that conditioned the partnership evolution and, implicitly, the evolution of the education system, may be accomplished at macro and micro-social level by organizing several specific training programs, but also by elaborating and effective developing of several educational projects based on partnership (to be seen the educational project: Stop for the VIOLENCE in annex 1).

Being given the specific features of the education units and their specific social role, the school representatives must assume the promoting role, the role for amplifying and for facilitating the educational partnership. We are going to develop an inventory of several components of the educational partnership and the relationships established among them.

1. Scholl unit within the partnership

Constituted as an open system, tat finds itself in direct relationship with the exterior environment and inherent with the community within which it functions, the school unit can transform its specific coordinates in straights that are to allow the initiating and/or the developing of the educational partnership. In order to assume such type of role, the school must take into considerations goals such as:

Thus, **the seven "A"** – concerning the implications of adaptability – as favorable, positive acts, decoding under the following shape:

- 1) **ATTITUDE** – as a general and positive perception of the university environment, being the response between R (receiver) and T (transmitter) in underlining the future social status acquired by student;
- 2) **APTITUDES** – as the sum of acquired acquisitions which give the student the power to be "consciously" present in the chosen university;
- 3) **ALTERNATIVE** - presented as a reserve to a undefined option, as a solution in extremis for the affiliation of the student to the university environment;
- 4) **ACCEPTANCE** – as conscious element of the intellectual effort and not only to reach the educational status one needs, also including the personal reporting way;
- 5) **ABILITY** – as a way of over passing the obstacles in the university environment, and the possibility to positively answer to the balance between personal identity and social identity;
- 6) **LISTENING** – as a response to a personal desire of student to attend a certain university or a silent accomplishment of family dreams that didn't become true.
- 7) **WAITING** – as a final relation between demand and offer, for the student to succeed in positively clarifying this relation.

With such an interpretation, student's adaptability can be viable, determining a positive behavior regarding a new attitudinal and valuable structure, reaching in time, the desired social status, through a future social position.

In this context of determination of adaptability and from the point of view of self-knowledge and self-education, Levi V. (1978) transformed a few ideas in sayings:

You can not change without studying yourself permanently.

You can not study without trying to change.

You can not study yourself without studying the others. You can not study a person without being interested in her/him. You can only know him/her by helping him/her.

You can not study yourself or others but through activities and communication.

Knowledge and self-knowledge of the human being are endless because human being is an "open system" which permanently and unpredictably changes. More than anything the human being does not "exist" but "becomes"

Thus the student is obliged to work to his self-education because Barna A.- 1995, says that the activity of formation supposes along the self-knowledge as a inseparable component, a strong will, patience and perseverance, skills to form ourselves like the chosen model, skills to master the concrete methods and procedures which can bring success in the complicated process of knowledge and formation. The methods and procedures are the same with those of self-education, even if some of them are mainly used for acquiring knowledge.

If in the prior chapter we mentioned the consequence of the initiation of some elements concerning the act of adaptability to the university environment, it is time to discover the existence of the deficiency of the in consequence which, in the end, determines inadaptability translated as: abandon, lack of implication, poor health which are determined by the 7 "D":

- 1) **DIFFICULTY** – decreased possibility to pass over the obstacles of adaptability and not being able to exploit the elements of communication and relationships;
- 2) **DEFICIENCY** – personal incapability to operate the instruments of adaptability;
- 3) **DISCONFORT** – a permanent physical and psychical state on non-implication, which make more difficult the act of adaptability
- 4) **DISCONTINUITY** – lack of coherence in maintaining an action
- 5) **DISAPPROVAL** – negative personal opinion of non-recognition of a situation that can lead to adaptability;
- 6) **DISIMULATION** – desire to mime without directly implying in the act of adaptability, minimizing personal responsibility;
- 7) **DEPERSONALIZATION** – negative connotations of personality that implies inadaptability.

All these attitudes and manifestations create a deficiency of adaptability that can negatively influence his whole educational demarche. The student does not report himself to any moral value, does not find himself in anything, attendance becomes sporadic triggering the abandon. The colleagues, the group and the study does not represent him, family becomes an obstacle in his "silence and his world" and he becomes little by little lonely, misunderstood, renegade in the university environment. What happened? Was he alone in such a fight against concepts and attitudes? Didn't he find support or someone he could talk to? Why didn't anybody teach him to help himself? Which is the problem?

Where was the counseling psychologist? Yes. It is a real, actual, and a good question.

In fact does the university needs psychological counseling? Yes, it does. The one who needs it will answer.

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EDUCATIONAL PARTNERSHIP. COMPONENTS AND THE RELATIONSHIPS BETWEEN THEM

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Zusammenfassung

Eine Bildungspartnerschaft die als Basis für die Übereinstimmung zwischen allen Kategorien die an einer Bildungsentwicklung interessiert sind, dient und deren Ausübung, Auswirkungen auf das ganze soziale System hat, kann der Schlüssel zum Erfolg werden und kann zur Lösung aller wichtigen Probleme, mit denen sich das rumänische Bildungssystem auseinandersetzt, führen. Die Bildungspartnerschaft besteht aus den Vertretern verschiedener Kategorien und Institutionen einer Gemeinschaft und setzt Kohäsion und Effizienz bei der Eignung und Förderung der gemeinsamen Werte aller beteiligten Partner voraus, während die Schule die Rolle des Förderers, Katalysators und Vermittlers dieser schulischen Partnerschaft, übernimmt.

The educational partnership constitutes, in the context of a society being in a continuous changing process, as a main strategy orientated towards the development of Romanian education and as real solution for the great problems we face in the nowadays education field. There must be respected a series of conditions that are aimed to sustain in fact the idea of education partnership as real solution for a part of the contemporary education problems, such as:

- The transformation of the educational partnership in a fundamental principle for any reformatting approach from education field;
- Establishing the values set that has to combine and to direction the partners' efforts;
- Elaboration of several coherent strategies and on long term in the area of the educational partnership;
- The establishing of the priorities that are aimed to unify the efforts of the educational partnership actors;
- Mentioning the role assumed by different institutions and social categories within the educational partnership.

In order to in fact realizing a partnership built on the democratic values, in Romanian society must be operated a change in the values, attitudes and behaviors areas at the level of all involved social factors: those responsible for making decisions, school people, families, pupils, representatives of the governmental and non-governmental institutions.

ANNEX NO.1

SCHOOL CENTER FOR
INCLUSIVE EDUCATION BECLEAN
STR. GRIGORE SILAȘI NO. 5
TEL/FAX: 343 132/ 343 138

COUNTY SCHOOL INSPECTORATE
BISTRIȚA- NĂȘĂUD

Educational partnership

The project's title

“Stop the violence”

Argument

It is considered that education is the key for the development and for ensuring the progress in society. The school and society represents a single direction unity. The present project subscribes to the need for continuing the good practices underlined by the previous projection and implementation. This is why we propose to further develop in the same parameters and with the same strategic instrument the present project.

Partners:

- 1 School units: National college “Petru Rareș” Beclean
General School “Grigore Silași” Beclean
General School “Liviu Rebreanu” Beclean
- 2 Beclean City Hall
- 3 Beclean city Police
- 4 Beclean city court
- 5 Beclean Orthodox Church

Project coordinator:

Prof. Manea Adriana Denisa –principle of the school institution

Project's duration:

2006-2007 school year- with possibilities for prolonging in the following years

Target group:

- The pupils with special educational needs.
- Secondary school and high school pupils attending the regular public schools from Beclean

Goal:

- Equaling the chances for the disabled pupils through social insertion;
- Developing preventive programs for juvenile crime, for alcohol and drugs use in order to ensure the developing of the desirable behaviors;
- Education in the spirit of the democratic values and of the Christian morality.

- The enlarging of the participating character in ensuring the school management;
- Making the family more responsible, as it is seen as the school main partner;
- Caching the attention of all the categories that may have a relative openness towards the school problems and towards its sustaining;

The attempts of the education unit to make more sensitive and to catch different category and institutions within the educational partnership field can become efficient in an authentic way just when every school is able to face the social and communitarian requests through specific approaches, such as:

- The adequate of the educational process to the social and economic changes;
- Establishing an equilibrium between the education requests and education offer;
- Accomplishing several specific communitarian needs through the formal and non-formal educational actions;
- Preparing the pupils for their personal development and for their insertion in community;
- The assuming of an active role according to the needs, the problems and the community priorities.

Answering to the social and communitarian requests, to the exigencies related to its own evolution and to the partnership principles, the school must direction its entire approach upon the pupils, they having to become the interest point for any partnership developed in the school education field.

2. Local authorities

According to the legal perspectives and on the base of the traditional relationships that were established along time, the local authorities offer support to the school, a support materialized in:

- Founds, material resources, fuel etc.;
- Donations in order to improve the material basis;
- Facilitating the obtaining of the extra-budget financial resources;
- The organization of the extra-school activities;
- Providing several spaces and terrains for the school use etc.

Within the relationships between the school units and the local authorities can exist dysfunctions generated by:

- Weakness of the present legislation;
- Interruptions in the inter-institutional communications mechanism;
- Obstacles in the inter-personal communication;
- Vices of the informing system;
- The absence of the education for collaboration;
- The pressure of the current problems;
- Attitudinal anachronic systems;
- The lack of the financial and material resources.

In order to become a key factor in the educational system in the community level, the relationship between school and local authorities must rely on reciprocal interest and on mutual support.

3. Non-governmental authorities

In the last decade, on the ground of the social changes from Romanian society, it could be registered an increasing of the number of the organizations with non-governmental character, that assumes specific roles, inclusively in the education field.

A part among these organizations developed a series of projects and activities that even if they explicitly made reference to education and/or school, they had a significant impact either on education, either on communities within which the education units develop their activity.

Starting from the common goals, the partnership between the education units and the non-governmental organizations can bring benefits for the school, benefits related to the valuing of the potential that the partners have in areas such as:

- The identification of the educational needs in communitarian level;
- The training of the human resources involved in education;
- The adults' education and counseling;
- The promoting the children's and adolescences' interests and rights;
- Gaining and dividing the material and financial resources;
- Identifying and catching potential partners in the education act;
- Building and developing partnerships;
- Promoting the institutional image in the level of different social environments.

In order to sign partnerships within which the school can valorize authentically this potential, the school management must aim specific responsibilities referring to:

- The identification and the catching of the non-governmental organizations that can become real partners in developing assumed programs;
- Establishing the framework and the concrete modalities in which it is to be developed the partnership;
- Training the school human resource in order to act responsible and efficient in this field.

Starting from the premise that one of the conditions sine qua non for signing and developing educational partnerships is communication, the managers of the education units must orientate themselves towards improving several elements that are related to:

- Mechanism for inter-organizational communication;
- Ways of informing addressed to the school partners;
- Ways of informing being on the schools usage;
- The coherence and the continuity of the information fluxes;
- Communication at interpersonal level;
- Training the human resources for communication.

Being given the fact that, from the perspective of the partnerships, one of the most serious sources for dysfunctions is inter-personal communication, the school human resources must be explicitly for:

- Identifying and eliminating the stereotypes related to the school partners;
- Being aware and eliminating the obstacles that regularly appear in the communication with these partners;
- Eliminating the communication behavior aggressive/ defensive types;
- The self-control of the affective/emotional extreme reactions;
- Creating a positive, permissive and open climate as a ground of the communication with the involved partners;
- Identifying the common objectives on whose ground communication can be built;
- Following the particular features of the communicating partners.

To answer these exigencies, school humane resources must go through training, centered on general problem concerning interpersonal relationship and communication, with explicit applications in relationship and communication field with the partners of the school unit.

Up to all rural or town community which include school units, translation in fact of partnership may begin through constituting a partnership group which will include the spokesmen of the different community categories and institutions. This type of group cohesion and efficiency are conditioned by assuming and promoting some common values for all the involved partners.

Within such a communitarian nucleus, being given the specific features of the school unites and their social specific role, the school spokesmen need to assume the promoter, catalysis and facilitator role for educational partnership.

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The cooperative learning refers to a number of instructional strategies that include the cooperative interaction of the students regarding the table of matters, as integrated part of the learning process (Kagan, Spencer, 1994, pg. 4.1)

The cooperative learning refers to a variety of teaching methods based on small group learning in which the students help each other in learning the academic content. In cooperative classes it is expected that the students help each other, discuss, verify each other's knowledge level, and fill the gaps in this regard (Slavin, R., 1995, pg. 2)

The cooperative learning is a didactic method based on the organization of the collective work according to well-established operational objectives, complementary knowledge directed to ensuring the social aspect of education, which aims at developing the communication skills, interactions, competence, and social behaviour of the students (Ionescu, M., Bocoș, M., 2001).

The above-mentioned definitions have certain common aspects, as following:

- The utilisation of groups as specific structure of this teaching model. It is about small groups of students included in common activities, emphasizing the interaction between the students.

- The purpose of such group activities consists in "developing the social behaviours of the students" and improving the cognitive performances of all participants ("learning the academic content"). The cooperation results in developing attitudes and behaviours based on trust, mutual assistance, attention for both personal, and other individuals' success. As Pavel Popescu mentioned (quoted by Chelcea S., 1990), the cooperation "stimulates the interaction and productive potential of the group".

At the same time we have to remark the opposite side of the medal. While certain definitions consider that the cooperative learning refers to "a number of instruction strategies" and "a variety of teaching methods", others perceive the term as "didactic method". The differentiation between the two understandings (cooperative learning as teaching method versus general term of the strategy complex and interactive techniques of small group activities) results in another terminological distinction, i.e. "collaborative learning" and "cooperative learning". For the moment, we are going to explain the meaning of these two terms.

In our opinion, the collaborative learning is a model that values the personal autonomy and relevance of reflection, as well as the active commitment and cultural pluralism. We are talking about collaborative learning when a person or group is in relationship with another person or group sharing a common goal, maintaining open relationships, and develop behaviour based on mutual trust and assistance. In other words, the collaborative learning expresses the

The project's strategy

1. Developed activity

No . Crt	Objectives	Activity title	Developing way/ deadline	Responsibles	Obs.
1	- to differentiate the desirable behaviors from the undesirable ones	The violent behavior and its consequences	- the pupils' meeting	- city hall social assistant - communitarian police psychologist - form masters	
2	- to identify correctly the group and the individual behavior developed during the last mount	The mirror reflects for us	- the analyze based on posters of one group behavior or of one class behavior.	-form masters - parents - priests	
3	- to express attitude towards a certain behavior	The non-verbal and its expression power	- school theater (mime) - to make role plays based on problem situations illustrating themes	-educational psychologist -judge-prosecutor	
4	- to acquire abilities and skills for establishing constructive relationships following the democratic principles	The town and its citizens	- ecologic actions ended with the exposition of the realized activities - the works expositions	- the town mayor - the police chief -educator directors	

2. Benefits

- a) Benefits related to pupils:
- to identify undesirable and desirable behaviors within the very own behavior and related to others (pupils, adults);
 - to intervene critically and adequate in the self training process based on presented model (esthetic education, civic education);
 - to analyze different situations and to take attitude

- b) Benefits related to community represented by public institutions;
 - to efficiently intervene for and in order to train the young generation;
 - to self-regulate the behavior adequate to the trend imposed by the young generation;
- c) Benefits related to school unit
 - to promote integrated education and the equalizing opportunities principle;
 - to intervene efficiently through valuing human potential for educating the child with N.E.S., for educating the pupils from mass schools, for educating community

3. Resources:

- a) human: pupils, didactic staff, parents, local authorities, institutions managers;
- b) financial: extra budget sources;
- c) material: folds of pictures, computers, retro-projector, costumes for theatre, bags of manage, three to plant, carton and cartoon colors, natural recompenses (sweets, diplomas etc.);

4. Evaluation:

- Shows varnish: "This way yes, this way no" and "Town and its citizens".
- Symposium on the theme "Citizen Rights and Christian moral".

5. The project dissemination:

- Radio issues.
- Articles in periodic, local and counties newspapers.
- Articles in the school review "Drops of light".
- Photo album.
- Presentation on the unit site to project's results.

INTRODUCTION IN COOPERATIVE LEARNING

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Zusammenfassung

Die Bildung zeigt ihre Kraft sowohl auf die Sozialgesamtheit, indem sie kollektive, relativ einheitliche Verhaltensweisen generiert, als auch auf jedes einzelnes Individuum. Die Bildung stellt ein soziales Subsystem in dem Sinne dar, dass sie aus der Sozialgesamtheit mit Rücksicht auf die Bestandteile und die Beziehungen zueinander, nämlich auf deren Struktur, theoretisch autonomisiert und relativ unabhängig von anderen Subsystemen des Sozialorganismus also studiert werden kann.

1. Terminological Issues

The "cooperative learning" has a long history. Since very old periods of time the teachers have been encouraging their students to work together, to have group debates on issues or to assist each others. While such activities were accidentally used at that time, according to informal and unstructured patterns, during the 20th century they have been based upon intensive scientific development and researches.

Beginning with the 80's the cooperative learning strategies have been developed and assessed within a large variety of pedagogical contexts. Each one of us can take advantage today of the result of the long-time activity carried out by hundreds of teachers and researchers in numerous countries and institutions. At present, we have good knowledge about the application of such methods in the classroom, the requirements of the effective cooperative learning process, the various methods and techniques that can be applied according to various objectives, in other words today the cooperative learning can be used as an important modality for structuring class teaching, not only as mere casual activity.

Thus, what cooperative learning is? The specialized literature mentions a number of definitions, e.g.:

The cooperative learning is the utilisation of small student groups as instructional method in such a way that they could work together, aiming at improving each member's own performance and contributing to enhancing the performances of all other members (Johnson, R., Johnson, D., Holubec, E., 1994, pg. 3)

Cohen, Aronson & Sharan use the cooperative learning involving the students for taking individual assignments within the group, defined by Slavin (1984) as methods aiming at “training for the task”.

Aronson developed the Jigsaw Method. The structure of this method allows creates the positive dependence between the students. In Jigsaw the groups study the various parts of the material separately. In the end each member joins the group to make a presentation regarding the part of the material that he/she had to deal with. The students are positively “dependent” to each other because they would not be able to apprehend the whole material if one member did not seriously involve in such activity. Being aware that they have to go back to the “home” groups where they are responsible to conveying the information gathered from the experts group, the students are “forced” to pay serious attention and active involvement.

Sharan’s Group Investigation Method also requires the involvement of each student’s responsibility for the task he or she was entrusted with.

The methods designed by Johnson, D. & Johnson, R. are quite similar to the approach based on the interdependence as result of assigning various tasks to the students (“The Secretary”, “The Encourager” etc.). One of the purposes for such “specialized tasks” used in these methods is to create the interdependence between the members of the group. Based on such dependency they will encourage and help each other in order to be successful.

2.2. The Behaviourist Theories

Promoters: Skinner (1968), Bandura (1965), Slavin (1977), Johnson & Johnson (1992).

This approach of cooperative learning is focused on the impact of encouragements and rewards and the analysis of the goal structures onto the group functionality. In the traditional educational process the stimulation for positive learning behaviour comes exclusively from the educator. In such classes the students are often faced with negative interdependence relationships, e.g. when the success of one member decreases others’ chances for success. This is the situation where the teacher applies the competitive structure. The cooperative objective structure creates situations in which the only way the members can reach the objectives is the successful activity of the group. Therefore, the motivational theories consider that the cooperative learning structure creates the context that motivates the learning process. In order to achieve their personal objectives, the members of the group must help their teammates, encourage them, and induce enough commitment with maximum effort. The subsequent evaluation of individual performance of each member must create in each member’s mind the awareness that they have to apprehend the whole material, and encourage the rest of the group to do the same.

The behaviourist theories consider the rewards granted to the group as belonging to the cooperative learning methods. The rewards can be based on the evaluation of the

philosophy of the educational approach, while the cooperative learning is the general term considered for the set of methods and techniques that define the various modalities of small group work. The work within a group based on cooperation means sharing the common goal by all members of the group and understanding that either the success could belong to the whole group, or none of the participants is successful.

We share the structural approach of cooperative learning as promoted by Spencer & Miguel Kagan (1994), and conclude that it is based on “systematic, analytic, and creative applications of *structures* or modalities of organization of the social interactions in classes”.

As most of the specialized literature written in our country deals with “group working” rather than “cooperative learning”, we consider as necessary to emphasize certain aspects that differentiate the two expressions.

Thus, V. Tarcovnicu (1981, pg. 139) defines group activities as “work developed by a small collective of students organized in order to achieve certain common goals”. One can remark the two elements that feature the specific of such activities:

- It is the small collective of students that develops the activities, which reminds the existence of the subgroups in the group “form”.
- The purpose of the activity is achieving a specific goal, i.e. joining every participant’s forces for the same purpose.

Though published in 1976, Buzas Laszlo’s work offered a better characterisation of group learning. The author also mentions how the common objective of the group should be achieved, i.e. active involvement of the participants and promotion of the social behaviours based on the mutual assistance of the members. “Group activity means the guidance of students’ activities. The didactic tasks required to the collective should be solved through *collective efforts* and *mutual assistance* (our underscore) by the members of the group” (pf. 16).

Ramona Radut-Taciu develops the term “autonomous learning group” within her recent paper “Individuality and Group”. In her opinion, the term includes “the deliberately established group of students that addresses one precisely established purpose, i.e. increasing the efficiency of teaching/learning activity” (pg. 47). Such a group develops the potential offered by each member and promotes changing the group into a team, which is the next upper stage that proves the higher level of cohesion of the group. Thus, we can remark an evolution as regards the representation of activities within the group, from considering by certain educators as mere organizational context where the students work individually, till the valuation of the advantages of this organization regarding the enhancement of the educational process.

Still, the cooperative learning means more than working in small groups of 4-5 members who carry on certain activities in order to solve a number of given tasks. The members of the cooperative group “are responsible not only for their own learning, but also

for the level of assimilation by the rest of the group. This means the creation of certain level of positive interdependence within the group. In terms of assigning various roles within the group, this means that each member is a learning facilitator for his/her colleagues, and the task is achieved as soon as all members of the group are able to solve it correctly on their own account. When the student work in cooperative groups based on the principle that “all are for one” and “one is for all”, the team members take advantage both in terms of knowledge, and emotionally, which help them to go beyond the obstacles they face with in schools” (Berce, C., 2003, pg .123).

We conclude that the basic difference between the cooperative learning and the traditional work groups is as following: while the last method requires group activities without paying attention to the way the group operates, the cooperative learning is based upon well- trained, planned, and monitored groups.

2. Theoretical Background Supporting the Cooperative Learning

The widespread utilization of the cooperative learning model is based on the unambiguous theory. At the same time, the model is validated as result of scientific research, and is operational through a number of clear procedures that the educators can use in classes.

Below, we are going to make a brief presentation of the main theoretical knowledge elements that support the cooperative learning, i.e. the Social interdependency theory, the Learning behavioural theories, and the Cognitive theories (Development theories and Cognitive elaboration theories).

As we mentioned above, the cooperative learning is deeply rooted in the ancient time (Quintilian, Seneca). In the dawn of the 19th century the educational system Bell-Lancaster is more and more recognized in almost every country. This model was design to attract into the educational process students that took part in training their colleagues after prior selection and training.

The beginning of the 20th century opens the substantiation of cooperative learning on scientific background. Yet, which was in fact the reason that has indirectly “forced” the implementation of this teaching strategy quite distinct from the methods used in the schools during the last century?

In 1954, The USA Supreme Court of Law enforced a Decision with deep repercussion on the life if the American institutions. The Decision stipulated that the private schools in the Unites States were no longer allowed to operate according to racial discrimination policy, but had to take into consideration the integration point of view. Many voices warned that bringing together groups of persons belonging to different ethnic or racial groups would not result in the better integration and acceptance of those specific persons. Therefore, part of the interest for the cooperative learning was the result of attempting to restructure the forms of students in order to promote the better inter-ethnic understanding and acceptance.

Robert Slavin carried out such activities in the cities situated along the eastern coast, as part of his integrationist efforts.

Sharan and his colleagues in Israel aimed at the same goal, i.e. the need of renewing the educational system in the country, in order to find out some ways to promote the better ethnical understanding between the Jew emigrants in Europe and those from the Middle East.

Johnson Brothers’ activity in Minnesota University was focused on understanding the degree that the cooperative learning environments could obtain as regards the improvement of the knowledge level and the positive discerning from the students with special needs integrated in normal forms.

2.1. The Social Interdependency Theory

Promoters: K. Koffka, K. Lewin, M. Deutsch, Johnson&Johnson, Cohen, Sh. Sharan, E. Aronson.

In 1900 F. Koffka (one of Gestalt Psychology School founders) asserted that the groups are dynamically unitary entities in which the interdependency level could change. In 1930s Kurt Lewin (one of Koffka’s colleagues) refines the definition considering that the essence of the group consists in the interdependence between the members. In 1949 Morton Deutsch (one of Lewin’s graduated students) expanded the theory over the social interdependence. He asserted that “the social interdependence is only present when the individuals share common goals and each individual’s outputs depend on the results of all other members”.

The basic requisite of the social interdependence theory consists in the fact that the structured type of interdependence in a given situation determines the way the individuals interact. Deutsch identified three types of interdependence and ways of interaction, as following:

- *Positive interdependence* – this is the situation where certain person’s interaction can promote other persons’ success. “The whole assistance offered to one member of the group is understood as assistance for all members. At the same time, the facts having negative impact over one member has the same effects over the rest of the group”. This type of interdependence stimulates the cooperation.

- *Negative interdependence* – is the situation where certain person’s acts can encumber other persons success. “What is useful for one member is unfavourable for the rest of the group and what is unfavourable for one member is favourable for the rest”. This type of interdependence encourages the competition.

- *No interdependence* – is the situation where certain person’s activity has no impact over the success or failure of the group. “What is happening to one member is not seen as concerning the group”. This type of interdependence stimulates the individual attitude.

Deutsch’s theory was expanded and applied in Minnesota University (Johnson 1970, Johnson, D., & Johnson, R., 1974,1989). In 1994, Johnson, D., & Tohnson, R. developed a number of possibilities for encouraging the positive interdependence. The authors emphasized the importance of individual responsibility as promoter of the positive interaction.

responsibilities. The reward system is different from one situation to another (according to the various ways the individual responsibility is developed: *Three Steps Interview, Pieces of Speaking, Paraphrase Passport, Co-op Co-op, STAD, Jigsaw, etc.*)

3.3. Simultaneous Interaction

There are two types of interaction: simultaneous and sequential. The simultaneous interaction involves the active participation of more than one student within a whole form. The sequential one regards the situation where the interactions occur one after another, not simultaneously.

S. Kagan represented the two types of interaction as following (Table III.1).

Table 1
Sequential and Simultaneous Interaction (acc. to S. Kagan)

OBJECTIVE	SEQUENTIAL STRUCTURE	SIMULTANEOUS STRUCTURE
Resource allocation	The teacher or one of the students distributes the materials	The persons in charge with material distribution hand over the materials to their team colleagues
Theme analysis	One by one each student presents his point of view	All students discuss in pairs the points of view
Making up teams	The teacher pronounces the name of each student and appoints the teams	Simultaneously the students look for their names placed on the desks
Answer communication	The teacher calls one student at a time	All students are involved in the answer
Support	The students raise their hands and wait the teacher to come and help them	The students ask their colleagues and are helped at once

This principle explains the advantage of cooperative learning compared to the traditional one.

In the traditional classes only one person speaks at a time (sequential interaction). The teacher makes most interventions. The student only interferes when appointed by the teacher. John Goodlad proved in 1984 that the teachers speak 80% of the class time, and the students have less than 20% to speak. As result, in order to involve each student for one minute in a form with an average number of 30 students at least 30 minutes are required to listen each intervention. The strategy is considered as inefficient as regards the possibility of obtaining the active involvement in the lesson a great number of students.

As soon as we organize the form according to the principle of simultaneity we obtain better outputs. Using activities in pairs half of the students speak simultaneously. If

common output of the group (e.g., the average score granted to the whole team) or could be group rewards based on the individual evaluation of each member. Slavin (1955) remarked an improvement of the knowledge level especially in the second situation, when the score of the team is calculated according to the average score for individual answers obtained from each member, without the assistance of the team. Such a scoring system is STAD method. After the teacher has presented the material that has to be learnt, the students are separated in heterogeneous teams. The next step consists in answering the questions asked by the teacher. The teams are rewarded with certificates according to the progress proved by the members. The phase of group discussion is quite important, as the members explain each others the concepts, assist and encourage themselves, because they are aware that this is the way they can be successful. When the reward is based on a single output of the group (e.g., filling in a worksheet) the group has little chance to follow the explanations and crosschecking, as there is the possibility that only one or two students solve the task and the group is rewarded, although not everybody took part in achieving the final output.

2.3. The Cognitive Theories (Development Theory and Cognitive Elaboration Theory)

Promoters: J. Piaget, Vagotski, Kuhn, Wittok, D. Dansereau, N. Webb.

A major alternative of the above-presented ideas consists in cognitive theories asserting that the interactions between the students result in the better mental processing of information and finally in improving their performance.

J. Piaget emphasized the intellectual conditions that make the child capable of cooperation and explains the effort of such cooperation onto his understanding. The interaction between the students within a group is important for the individuals, because they are faced with certain points of view somehow different from their own ones and protects them from keeping with rigid and stereotype habits.

Piaget considers that "the intellectual conditions of cooperation are fulfilled as soon as each member is capable to understand other persons' points of view and can adjust his/her attitude or verbal contribution to theirs" (quoted by Aebli, 1973, pg. 76). This is what Piaget considers as "*The reciprocity of thinking*". The author considers as well that "the intellectual process is the product of the intellectual co-operation". Examples:

- The child reacts more logically when having a conversation with other person. "First, the child tries to avoid the contradiction" (J. Piaget, 1972, pg. 194).

- The child takes note of certain points of view different from his ones in the presence of other persons, either children or adults. The cooperation and social interaction allows the child "to surpass the initial egocentric intuitions and reach the coherent and mobile understanding".

As regards Vagotski's theory, his main assumption is based on the fact that the human beings are not only biological "products", but also human culture outputs. The function of intellect is the output of the social history. The children learn through their

interaction with the grown-up persons and other children around them. What the children can do today with the help offered by their colleagues they can do tomorrow by themselves, as result of the previously offered assistance.

Vagostki has also explained how the interaction with other colleagues can result in building up knowledge. The author developed the concept of “proximal development zone”, which defines the distance between child’s present-day development level (determined by the capacity of solving the problems by himself) and the potential development level (determined by the capacity of solving the problems as guided by an adult person or in collaboration with other more skilled colleagues).

The influence of the collaborative activities onto the learning process is described as following: “At first the functions are built up as relationships between children and later on they become individual mental functions”.

The cognitive psychology theories validate as well the model of cooperative learning. The cognitive psychology researches revealed that for understanding and memorizing the knowledge it is needed to place it into certain conceptual structure. Organized in small groups, the persons that acquire knowledge have the possibility of “rehearsing” the material, share to the rest of the group their own understanding and present their conceptual constructions (Wittrioc, 1978).

Many cooperative group activities come from this perspective of human development, e.g. “pair tutoring” - Palinscar, Brown & Martin, 1987, “pair check” - Kagan, 1994. Improving the memorization strategies (oral repeating, semantic organization, elaboration) can be achieved through cooperative learning. One of the most efficient ways of elaboration is explaining the matter to somebody (D. Dansereau, 1985). Noreen Webb (1985) has explained on experimental bases that the students achieving the most from cooperative activities are those who offer elaborated explanations to other persons. MURDER is a method that requires the students to collaborate for the proper understanding of the matter (M-mood, U-understand, R-recall, D-detect, E-elaborate, R-review).

3. The Essence of Cooperative Learning

The specialized literature concentrates the core of the cooperative learning into four principles, i.e. *The positive interdependence*, *The individual responsibility*, *The equal participation*, and *The simultaneous interaction*. The four elements, according to Spencer Kagan (1994), define the cooperative learning. As soon as one is not implemented the cooperative learning vanishes. The educator can modify the cooperative learning structure and create new cooperative activities and new lessons, provided that he understands very well the basic principles of this model. Each of the four principles will be presented below.

3.1. Positive Interdependence

We can talk about positive when the team members are positively dependent to each other. In other words, what is a gain for one of the team-members is a gain for the whole team.

In the form organized according to competitive structures another type of interdependence occurs: it is about the negative one. Competing to each other the students are aware that in the end there will be winners and defended. One can only be a winner when proving that he is better than the rest of the group. He cannot afford helping the others because if he does so he would jeopardize his position in the group.

Taking again the positive interdependence we can talk about it in a form when the students can feel they are “together in the same boat”. They are aware that they “either sink, or survive all”. Thus, they aspire to certain recognition. The students encourage each other and support the weak ones, because this is the only way the team could obtain the desired recognition.

There are three types of positive interdependence (cf. Kagan, 1994, pg. 47). The weaker type of interdependence consists in the probability that the success of a member results in the success of the whole team, in other words the success of the teams depends on and is facilitated by the individual success of the members. The intermediate type is when the success of each member contributes to the success of all team members and a member can be successful by his own as well. The team is successful as result of each member’s success, but the can also be successful without the contribution of each member. The strong type of interdependence occur when the success of each team member is not possible without the success/contribution of each other team mate, and the team is not successful without the success or contribution of every single member.

The positive interdependence can be structured on *objective level* (all team members aim at achieving the same objective), on *reward level* (team recognition based on members’ recognition), on *task level* (the tasks can only be solved if shared and addressed together by all members), on *resource level* (each member only holds part of materials), and on *role level* (each member plays one role, but the roles are connected in order to achieve the objectives).

The positive interdependence can open the students’ mind to mutual influences. No student acts by himself.

3.2. Individual Responsibility

Eluding the completion of the tasks by certain students can be avoided if each one takes his or her responsibility for achieving the assigned mission. There are many forms of understanding the individual responsibilities:

- Specialized tasks – the student takes his responsibility when he is aware that the task has a high degree of specialization within the proposed project. Whether the group enforces the rule that the next sequence of learning would not be considered till all members would have completed their previous tasks, the result could be the mobilization of the whole team.

- Rewards – when the average result of the group is based on the cumulated individual performances the student is aware of his responsibility in completing the assigned task. Most cooperative learning structures are designed in such a way that each participant takes specific

EDUCATION IN MACRO- AND MICRO-STRUCTURAL ENVIRONMENTS

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Zusammenfassung

Das Lernen durch Kooperation hat eine langjährige Geschichte. Seit ältesten Zeiten haben die Lehrer ihre Schüler dazu ermutigt, gemeinsam zu arbeiten, bestimmte Fragen gruppenweise zu erörtern oder sich gegenseitig Beistand zu leisten. Wenn eine solche Art von Tätigkeiten damals aber zufälligerweise in einer informationellen, unstrukturierten Art verwendet wurde, stehen wir im XX. Jahrhundert bei einer umfangreichen wissenschaftlichen Entwicklung und Forschung dieser alten Arbeitstechnik bei.

The education is an extremely intricate process. Its complexity resides as well in its large-scale manifestation, as it covers both the entire society taken as a whole, and the segments that are parts of the society.

At its turn, the society is organized according to a number of social units. In order to be operational the sociological approach makes the separation between the macro-social level and the micro-social one, considering the type of the social units it refers to.

Therefore, the education can be discussed taking into consideration the specific levels of the components that belong to the organization of the society.

1. Micro-Social and Macro-Social in Sociology

The theoretical division of the society into its two main components resulted from the need of enhancing the pertinence of analysis. At its dawn, the sociology was entirely global and speculative and faced with two different structures having absolutely different characteristics. As result, the sociology divided into its fundamental and different branches, i.e. “Macro-sociology” and “Micro-sociology”. The difference between these two branches is not entirely different from the difference between the experimental and field sociology, or the theoretical and applied sociology.

The preoccupation for macro-sociology occurred prior to that for micro-sociology, though the second one occurred before the first. The macro-sociology only comes “to make the difference” from the micro-sociology. In fact, the macro-sociology represents the sociology as a global science. When we use the term “Sociology” we should take into account that the sociological language considers this term for the whole sociology, including the micro-sociology. We should always specify what are we taking into discussion.

working in groups a quarter of the students speak at the same time. Compared to the traditional class the students are more time actively involved.

Considering this principle the teacher knows what strategy to adopt according to the objective he aims at. Thus, if the teams have prepared a presentation to be shared to the whole form, the teacher can use the structure named *Team presentation to the form*. If the presentation is 5 minutes long, going back to each person’s place takes 1 minute the 8 teams will finish their presentations after 48 minutes. If considering the simultaneity principle the structure can be *Team presentation to the teams*. According to the same calculation each team needs 5 minutes to make the presentation to another team, 1 minute for going back to each person’s place, and in 11 minutes each team has presented and followed one presentation. The saved time can be used for discussions, comments and suggestions.

Knowing the capacities of the two types of interaction facilitates the better outputs through simultaneous active involvement of a greater number of students in the activity.

3.4. Equal participation

It is very important that the students can actively take part in the educational process. The participation is an essential ingredient for the successful student. According to Kagan, the active participation is the essential ingredient for ensuring the success of *all students*. In order to obtain such participation the class should be organized.

It is not enough to organize simultaneous interaction situations. We should assess as well the number of the active students at one moment, i.e. to evaluate how equal is the participation.

Kagan makes an interesting comparison between the *Pair Discussion* structure and *Timed-Pair-Share* one. The author remarks that in *Pair Discussion* the principle of simultaneity is covered (50% of students speak at the same time), but not the principle of equality, because for most of the pairs one person speaks all the time or at least most of the time. As the cooperative learning has to cover all four principles, the author considers that *Pair Discussion* is only group activity, not cooperative learning.

The second structure (where both persons in the pair have to talk a period of time each one) complies to the simultaneous interaction principle, not to the equal participation.

In the traditional class the students with good results and the extraverted ones are demanded to answer the questions almost all the time. The teacher is always tempted to appoint them, e.g. those who raise their hands to answer the questions. As teachers we should offer equal chances to all students, including the weak and introverted ones.

Two ways of creating the equal participation have been identified:

- Establishing certain *rules regarding the participation frequency*. According to such rules the students are not only faced with the opportunity of taking part in the class, but they also must do it when it is their turn.

- *Labour division* is the second way. Each student is appointed to cover a specific task. Many times the task is established through the so-called “task-roles” or “maintenance

roles”. Kagan considers that using solely the second type would not ensure the equal participation in covering the educational tasks.

Certain authors (Johnson, D., & Johnson, R.) complete the four principles considering that there are other two essential components that define the educational process as cooperative. It is about the cooperation skills and the evaluation skills regarding group activities.

4. Conclusion

For every educational task proposed by teachers they have to select the proper structure of interdependence between the students: competitive, cooperative, or individual. The type of structure influences the way the students interact to each other and implicitly the outputs they obtain. For long time the competition and individual learning were prevalent as regards the activity in classes. The educators have always ignored and still have such an attitude to the cooperative learning, in spite of its advantage. Implementing this type of learning is quite an intricate and difficult process. Besides being aware of what the cooperative learning is and what scientific theories support it the educators have to understand the essential elements that define this method, as well as the advantages it offers when used in the classes.

Within this model the roles of the students and teachers are modified. Therefore, they should be aware of this change and act accordingly. It is important as well to know the weak parts of this model in order to have the proper understanding and to find more efficient solutions to surpass such impediments.

Without aspiring to exhaust the discussion on the main issues regarding the cooperative learning we consider that this paper makes an introduction or an attempt to build the “infrastructure” of a road that ought to be covered.

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which such facts are presented, and aiming at generalization of the observed data to other similar cases. There is the danger of ridiculous situations if the analysis is not properly designed. This possible situation produced a funny joke addressed to the micro-social investigation: at this level the investigation means spending US\$ 100,000 to find out the location of a brothel, while one could get this information free of charge from any taxi driver (some persons compare this with the Middle Age preoccupation regarding the way the angels reproduce).

Born as reaction against the useless plain theoretical approaches that generated numerous theories, which contained few important ideas (proved by the fact that a small number of ideas have been preserved after the long run of time, bringing their contribution to the knowledge of the education sociology, although the search for such ideas was assiduous), as trend for bringing the education sociology back into the real world, analysing the education on micro-social level does not necessarily mean neglecting or abandoning the general issues regarding the involvement of education in the social life.

On micro-social level the analysis of education does not include the general aspect (education as education, to say so), but the concrete aspects of its manifestation. Certain concrete expressions of the specific processes of learning, propaganda, instruction, faith, etc., together with their characteristics, are in the attention of the education sociology developed in small-scale primary environments. Thus, besides the pertinent interpretations that are brought about, a number of solutions are produced, aiming at improving the impact of the concrete forms of educational process onto the micro-social environment and maintaining the quality of such impact.

c) The Unity of Education Investigation Within Macro- and Micro-Social

It is beyond any doubt, and the history of education sociology certified, that the two types of investigation and their outputs are not entirely independent. On the contrary, as we have already attempted to draw attention, they are interconnected according to some pattern that could be considered as dialectic. This correlation is not entirely understood in detail and represents an important preoccupation for the sociology. The final goal of this correlation is to clarify the matter and essence of the sociological knowledge (interpretation) of education, its specific features and finding pertinent ways that can be used for “catching” the relationship between the society and education.

P. Ilut was preoccupied of analysing the unit mentioned above. “The macro-analysis means taking into consideration the general aspects of the reality and social phenomena; the micro- regards the detailed and concrete analysis of the entities that belong to the specific realities and phenomena. The first takes into discussion especially the quantitative structural aspects, and the second one regards well-defined processes. For the first aspect the statistic data are quite specific (...), together with the attitudinal- (optional-) behavioural configurations of the population, revealed by inquests and investigation, as

The importance of the small groups and the specific issues, as well as the need regarding the study of the characteristics of such groups, resulted in the term of micro-sociology, inspired by the name of the “micro-biology”. The first scholars that independently used this term have been the French sociologist G. Gurwitch and the American psychologist J.L. Moreno (Romanian origin).

The present-day sociology accepts the distinction between *the Macro-Sociology* and *the Micro-Sociology*. The difference considers the various analysis approaches specific to the two branches, rather than the size of the object taken into discussion, which justifies the similarities with the pairs *Theoretical/Applied Sociology* and *Experimental/Field Sociology*. The macro-sociological analysis refers to the structural dimension of the social life, its components, existing, and dynamic relations. By contrary, the micro-sociology deals with the manifestation of the details and material aspects.

Thus, we have two approaches that justify considering the difference between the macro- and micro-sociology, i.e., on the one hand, the area covered by investigation, and on the other the specificity of the scientific inquest. Severe confusion could occur if the specification of the scientific approach is missing.

The ideas presented in the following pages allow emphasizing our own interpretative horizon regarding this issue. We consider that the best point of view is to accept that the difference between the macro- and micro-sociology results from the size of the social unit taken into discussion, and from the characterisation macro- or micro- of the social reality (though the distinction is quite relative, we should admit). As soon as the difference resides in the specificity of the analysis, we are faced with theoretical/applied sociology, or experimental/field sociology.

The analysis of the ideas expressed in the literature (mostly in contradiction to each others and often confusing) confirms the idea emphasized above: the intricacy of the social reality, the structural and operative dimensions are those that justify the distinction between the macro- and micro-social aspects. The sociology has to accept this distinction; still, this approach does not justify the separation at scientific level: macro-sociology vs. micro-sociology. The field of analysis is the one that has to be differentiated, not the science named “Sociology”. At the same time, accepting the existence of the macro- and micro-sociology results in certain difficulties regarding the various aspects of the sociology. In other words, we should take into consideration the macro-sociology of the specific branch (e.g. the macro-sociology of education) vs. the micro-sociology of the same branch (the micro-sociology of education), together with the clear definition of the criteria that justify the distinction.

Such a distinction has not been done so far. The main reason could be the lack of needed justification.

Whether the micro-sociology deals with small groups (considering that such a justification is acceptable), it could be applied to each component of the society (economic, politic, cultural, and community components), on the level of the small groups belonging to the society. Still, the education is one of the social processes active in every single social component, and on the level of the global social system as well. Therefore, it is justified

considering that the education could be analysed not from macro- or micro-sociological points of view, but on macro- or macro-social level. This is the basis that our approaches in the pages below will be built on.

2. Education in Macro- and Micro-Social

The separation between the macro-social and micro-social is justified and favourable for the analysis of the education. The sociology of education considers this conceptual distinction, which allows making the difference between certain levels of analysis of the presence and role of education in the society.

a) Education in Macro-Social

The macro-social represents the social aggregate materialized in social systems in interaction for generating new features. In macro-social there are permanent exchanges between the society taken as a whole and its components; these exchanges are favourable for the general functioning of the macro-system. Various social processes occur in macro-social. The education is one of the most important such processes and can be analysed according to two relatively distinct points of view: as system (*systemic analysis*) and as process (*processual analysis*).

Taken as *system*, the education reveals the following aspects: national educational system, educational institutions, local educational communities, etc.

The analysis of the education developed in macro-social on system level compels the sociology of education to understand the institutional organization of education, the actors involved in the educational process on national level, their responsibilities and activities. We have in view the school, the church, the army, the mass media, the political parties, and other organizations playing major roles in the education of persons according to the requirements formulated by the policy makers and the natural development of the nation in relation with other nations taking part in the worldwide educational process.

Taken as *process*, the education can be studied from other points of view: educational policies, socialization and education, education democracy, education crisis, and educational reform. The educational process allows the analysis of certain processes specific to the educational actors created by the society aiming at reproducing such agents.

The analysis of education involvement (as process) in macro-social includes the attempt of understanding the large-scale educational actions aiming at the whole social system with impact on each component of the social life.

The interpretation offered by the analysis of education involvement in macro-social is a general one, based on social paradigm; it reveals the justification of the relationship between the society and the education, the role of education as social process in the development of the social life. The interpretation analysis the correlations between the components of the social life imbued with educational aspects.

On this level the sociology of education does not deal with, for instance, the educational role played by the syndicate of a specific commercial company, but the role played by the education in the economic life and, implicitly, in the whole social life. The idea that the institutional management should be revised and reconsidered in order to be efficient resulted in the so-called *reengineering*, which opened new possibilities regarding the valuation of a specific company's resources through re-designing the processes and giving up the existing stereotypes. The new attitude, once applied, could have spectacular economical and social impact, based on considering the education as main basis. Its role is critical. "The traditional companies – consider the promoters of the *reengineering* – usually emphasize the qualification of the employees and the skill of the staff regarding the execution of certain activities and solving specific problems. Within the companies that are implementing the *reengineering* the importance shifts from qualification to education. The qualification enhances the skill and the competence and trains the personnel how to develop the specific works. The education enhances the possibilities of understanding and teaches the employees to know why" (Hammer; Champy, 1996, pp. 96-97). The analysis of this new situation identified as quite operational in economy belongs to the sociology of education that investigates the macro-social.

Obviously, the analysis of education in macro-social offers mainly speculative, general, and abstract interpretations, apparently separated from the educational practices that involve the factors taking part in the educational process, i.e. the educator and the person subjected to education.

b) Education in Micro-Social

The micro-social is not an artificially created field of activity of the social life. It exists, has its own life, naturally connected to the macro-social that it belongs to. The micro-social is populated with various processes, amongst which the education is an important component, as it makes possible the reproduction of each specific process.

The micro-social is the field of activity in which the individuals, as human entities, are directly connected and join in preferential relationships (Sartre takes into discussion "intimate" or "primary" groups). The involvement of education sociology in micro-social allows the utilisation of field investigation, which offer precise data regarding the educational process developed in small and non-complex social units, e.g. the school (taken as material entity, not as organisation), the students group, the military sub-unit, the party organisation, etc. The investigators can use the methods of data collecting and interpretation mentioned above.

On this level the investigation means leaving the "study cabinet" of the sociologist and approaching the educational processes developed at present, with their specific impact (usually short-time effects) on other components of the small group. The result does not consist in bringing about more theoretical systems of education sociology added to the existing ones, but establishing certain facts, observing the contexts and correlations in

the development of its own life, takes part in complex and multiple relationships with other sub-systems of the society. As social sub-system the education includes actors that bring their contribution to achieving the goals proposed by the political component, as much as the economical dimension allows. From didactic point of view, the education can be analysed as an autonomic sub-system. In fact, this autonomy is not possible, because the education is included in every single component of the social. In other words, the education is based on the political and economical aspects throughout its development.

The education sociology does not reject the above-mentioned ideas, being considered as realities beyond any doubt. Still, there are many uncertainties, which bring forth a number of questions regarding the acceptance of education as one of the social life components: is the education an objective or subjective component of the society?; what is the relationship between the education and the culture?; is it independent from other components of the society, or it is integrated within the society? These are only some of the questions raised by the simple inclusion of education in the social patrimony. While the pedagogical sciences do not deal with such questions, the education sociology cannot elude them, as the pertinence depends on the answers.

The complexity of education is beyond any doubt. The education is in relationship with the culture. Through its practical dimension in the role played in the social activities the education is the vehicle that brings forth the culture. The education makes possible “conveying” the culture values from one generation to another, from educators to educated persons. The substance the education works with is the culture. As theory, as doctrine, and as system of ideas the education is part of the culture. Therefore it is quite clear that the nature of education is understood as unification of the real facts with the theory. Thus, the education is component of the social life from the very first moments of its existence. From this point of view, the education is entitled to the status of sociological object, i.e. the education sociology. As result, one of the expressions of education is the sociological one.

From sociological point of view, our conclusion is that the education plays double social role: as binder of the human social components and as negative (disintegrating) force (in other words, its double role is based on the potential of inducing organizing impact and disorganizing effects).

b) Manifestations (Expressions) of Education

“Education” is a general term represented in the real world by two important expressions: *the theoretical* and *the practical one*. Once admitted, such expressions open the acceptance of the third one, i.e. the *sociological* expression, which is complementary to the first two.

The history of education establishes that the theoretical expression and the practical one occurred consecutively (the practical expression was the first one). But what is the meaning of each one?

well as by documents (...). Any macro- analysis is based upon the aggregation of the characteristics of the micro- components”.

It is clear that the two approaches cannot be totally separated because the complex relationships binding them together. Briefly, the following facts can be mentioned:

- Exploring the education in macro-social environments offers ideas that can be promoted as basis for the effective organisation and guidance of the investigation in micro-social environments.
- Analysing the role played by the education in macro-social does not mean the presence in the sociological speculation. A large number of education sociologists have attempted and succeeded in investigating topics connected with the macro-social level using concrete data. Still, it is obvious that expanding the outputs of the micro-social analysis into the macro-social level brings forth a number of quite complex problems, especially connected with the aggregation. Here is one very illustrative example of the defective scientific generalisation: “The evolution of the society has influenced especially the value of the education – ascertains the author of an outstanding work (Grosu, 1997, p. 128). Thus, during the pre-industrial period the education is placed on one of the first places in the hierarchy of the fields of activity, bringing its contribution to the emergence of ever increasing scientific, technologic, and wage levels, resulting in ever ascending development of the society. But such an evolution resulted, at its turn, in the underestimation of the education in the society. Therefore, during the post-industrial period persons that did not reach high standards of intellectual condition have occupied the main positions in education. Thus, it is relevant that the men have exclusively occupied the positions in education field of activity, while in the post-industrial period the women occupied most of such positions (exclusively in the elementary schools). As result, the education depreciated and we are faced with the risk of severe descendant reproduction of the society”.
- The persons who meditate on macro-social are those who take into consideration the unity between the two approaches of the social role that is played by the education. They need the support consisting in concrete data in order to confirm or infirm the general ideas and to expand these ideas to general levels. They refuse as well considering the role of the education within the limits of the one-sided relationship between the individual and the society. This approach is a new one; it was only during the last few decades that it has occurred and has been agreed with.
- The investigation methods of the two approaches are quite different, as we emphasized in one of our previous works. While such methods are not common and cannot be taken over, the outputs obtained in one specific field

are useful for another one. The micro-social uses the quantitative model (*experiment and inquest based on standard questionnaires*), and qualitative one (*participative observation, standard opened interview, document analysis*), while the macro-social involves other methods. Any methodological extrapolation results in the failure of the investigation. It comes out that the methodologies are not inter-changeable and the outputs are not complementary, resulting in the validity of the idea that the micro-social investigations are not compatible with the macro-social ones. The data collected and the materialization of such information offers the background for pertinent generalizations and decision-making processes as regards the social role of the education.

- Any unilateral approach resulted from neglecting the dialectic relation between the macro- and micro-social analyses inevitably results in the failure of investigation and obtaining outputs that do not represent the proper image of the reality. Giving up the general theory and maintaining the empirical level, as well as attempting to replace the macro- with micro-social investigation result in breaking apart the object of education sociology, and consequently at promoting disparate ideas having nothing to do with the object. At the same time, giving up the field investigation weakens the power of the ideas, brings forth the danger regarding the fact that the general ideas do not express the genuine world, but the artificial reality produced by the investigator. The outputs of such attitudes and practices are integrated in a science undermined in its pertinence and guiding force.

The terms involved in the investigation of the relationships between the society and education on macro- micro-social levels have, somehow paradoxically, various meanings. From macro-social point of view the society and education satisfy their entire content and occur in the plenitude of their real existence, while the micro-social analysis reveals the fragmentary society (organisation, primary group, family, etc.). At the same time, the education is considered as mere component (education or training process, etc.). On micro-social level there are relationships between the various components of the social and the manifestations of the education. Going from the lower to the upper level of the analysis and back (i.e. “going up” and “going down”) should take into consideration this specification. This is the only possible and justified way to emphasize, “each macro- analysis is based upon the aggregation of the characteristics of the components on micro- level”.

The unity of the two components used in this study represents the only acceptable and proper way to reveal the truth with genuine theoretic and practical power, with regard to the impact of education on the social life of the humankind, as well as the influence of all other components of the society to the concrete existence and transformation of education. It is obvious that the simple theoretical approach is not enough to penetrate the essence of the process taken into discussion; the study of the concrete manifestations and the empiric

investigation are indispensable. The general theoretic approach produces the concepts and the ideas needed to put in order the existing documentation, and the collected data would have to confirm or infirm the emerged theory.

3. General Aspects of the Relationship between Education and Society

The detailed presentation of the macro- and micro-social environments should take advantage of certain issues playing the role of the theoretical background, aiming at revealing the identity of education sociology. The main challenge is to understand that the education is expressed (materialized) in the social life according to various modalities. At the same time, the education is subjected to the influence of the social components and changes its content according to the power and quality of such components. In order to facilitate this understanding we are going to underline in the pages below a number of preliminary general aspects.

a) Education as Component of the Social Life

The sociological literature considers the education as belonging to this science. Thus, it is accepted that the education is one of the components of the society and plays one specific social role. The social reality includes numerous aspects that characterizes the education, structures its content, and guides its development. Essentially, the sociology accepts that “The education plays a key-role in the society. The functionalists consider the education as useful in distributing the social roles and support its changes. On the other hand, the theoreticians judge it as a tool for perpetuating the existing unfair system of stratification” (Goodman, *op. cit.*, p. 265). The “key-role” is expressed as result of the functions it covers. The millenary presence of education, its continuity in spite of the difficulties encountered in its historical existence, certify that education is neither another human trifle, nor a temporary invention on the stage of human development. On the contrary, it represents a constant component of the society and is important in the development of the social life. In other words, the education covers a number of functions and has certain goal. The education is based on outstanding productive potentials. On the one hand, the education produces human resources that the social organisation is interested of (professional, civic, religious, etc.). On the other hand, it regulates the social integration of the each individual and discourages the socially undesirable attitude.

The education demonstrates its power over the social complex as well, generating collective and relatively unitary behaviours.

The education represents one *social sub-system*. Thus, the education can theoretically obtain its autonomy from the social complex, taking into consideration its components and the relationships between these components, i.e. its structure. Consequently, the education can be studied independently from other sub-systems of the social organism. This sub-system, besides

1. *Developing the capacity of information processing.* It is clear that each person comes into the world with certain potential and possibilities of developing the capacity of information processing, with natural born “heritage”. Biologically and/or (especially) psychically (as regards the capacity of information processing) the congenital heritage is not immutable and can go through changes under the pressure of other factors that produce effects over the individual. Amongst such factors the education plays a decisive role. What the individual is at certain moment of his/her life originates beyond any doubt in the quality of the educational activities he/she was subjected to. Still, one should keep in mind that the education is incapable to solve everything, e.g. it cannot make up potentials, but has the power to re-direct the processing potential, put into operation, or inhibit certain components.

2. *Professional training function.* No matter how many pages have been written so far in the specific literature about the prospective re-direction of education, it is doubtless that it should not be separated from the present day reality. Our society needs lathe operators, teachers, constructors, engineers, medical personnel, etc., reaching specific professional qualification. Each human only fulfils such a professional role after achieving the needed professional training. All these are educative activities that aim at the professional qualification of the individual, who has to follow the training stages in which he finds out the professional experience that has to be assimilated.

3. *Personality building function.* We have already mentioned that the education cannot do everything and is not the sole factor that influences the human development. Still, in its absence the human would be much less “rich” than he actually is. The functions described above show that the education contributes sequentially to building the entire human personality. Without exception the personality dimensions are subjected more or less to education impact. Undesirable experiences have certified that the individual born with human possibilities only becomes man if subjected to the educational process.

Conclusion. The functions of education described above can only be comprehensible using didactic methods in order to facilitate the access of the student to understand the complexity of education. In fact, the educational role is unique, i.e. maintaining and/or changing positively and deliberately the capacity of information processing of individuals and effectively contribute to reproducing or maintaining and preserving the social organisation. The explanations reveal the connections between the functions, and the fact that each one assumes the presence of all the rest. Obviously, the socially oriented and individual role of education cannot be denied. How much the society and the individual owe to education is a mathematical relation with variables regarding the historical stage, geographic place, quality of individuals, tradition, etc.

The fact that any educative activity is always an individual and simultaneously a social one appears to be a pertinent conclusion. In order to support this assertion we quote

The theoretical (intellectual) Expression. When the education as primitive social practice has started to be fruitful and important in the reproduction of the human groups, the scholars took it into consideration. Within the European area it is considered that the Classic Antiquity (Socrates, Plato, Aristotle) represented the first display of ideas (Cucos 2001). The ancient philosophy has opened the possibilities of making more and more complex approaches, which contributed to the knowledge of educational phenomenon and its development. In other words, the educational ideas have stated its definition regarding “what is” the education in general lines, and “how should be” the education as action. Of course, the written elaborated forms of the educational ideas have occurred after a number of unclear ideas, characteristic for the empirical processing of elementary education, which is mainly figurative. The interpretation of educative phenomenon was naive and maintained in the collective memory without theoretical, elaborated, organized, and systematic transformations. At present, the intellectual expression of education is found in a number of theories, conceptions, and products of many sciences that deal with education. It represents the guidance for educative activities and for the continuous investigation of this process as well. As regards the evolution of understanding about education, there are many scholars on whose shoulders others have climbed in order “to see further”. The first ones are referred as “doctrine founders”, because their contribution was decisive for the proper understanding and guidance of the educational process.

The Practical Expression. The education does not only consist in a system of ideas, but also in real facts that occurred prior to such ideas or are inspired by these. The facts represent modalities used in order to endow the generations that have to be educated with proper spiritual and practical experience. The relationship between the theoretical and practical expressions is quite complex. When it comes to real life, the practical expression is separated and sometimes is not prepared by the theoretical one. The whole educational activity should be based on good theory. The professional educators are those who organise and develop at institutional level the educational practice. The educational sociology is therefore interested of the educational practice as it develops within the society, and its main impact is found in the evolution of the social life.

The Sociological Expression regards the educational aspect that makes the education the mediator of certain social relationships. Lucian Blaga referred to learning as non-personal action, but a social one, because its impact is not limited to the person who learns, but spreads around him or her through the induced behaviour. The education as (school) learning has the same social impact, although it seems to address the individual. The sociological expression reveals that the education is included in certain organised and institutional forms, and develops through a number of specialized organisations that cumulate educational roles. Thus, the education has many important functions related to the individual and the society taken as a whole, bringing support to Benedict’s expression: “In reality, the society and the individual are not opponents”.

In relation with the society, the following functions occur:

1. *Conveying the social experience.* It is accepted that each individual is a continuator of the social experience gathered back in time by the group he or she belongs to, according to the spiritual assimilation (sometimes adding certain contributions). As soon as a person is included in this circuit, compels to acquiring the social experience, which can be done according to a number of possibilities. The most important and efficient one is the education, understood as organized social activity, developed by expert representatives of certain educational organisations. The education raises a number of problems that have to be solved: what and how much of the spiritual heritage should be offered? Which are the organisations and what responsibilities have each one of them in terms of information? etc. All these questions are connected to the educational policy and emphasize the tight relationship between policy and education. For instance, it is well known that during the communist regime the content of education used to be strictly determined by the official ideology and the education was guided towards “the creation of the new human person, founder of the communism and socialism”. As soon as the new regime replaced the old one, the new role of education implied the new educational content free of the communist restrictions, but not at all free of all restriction.

As result of this function the education maintains the spiritual characteristics of the human groups (people, nation, ethnic group, etc.). At the same time, it creates but also keeps tight hand over the differences born from different situations that are not advantageous for the social development. The nationality of a person (Romanian, German, Englishman, etc.) is not solely the result of the birthplace or his/her origin. The education plays an important role in this issue. It maintains and develops specific features, and makes the new members of the society compatible with the qualitative standards of the human group they belong to.

2. *Economical and social function.* The education enforces its effects over the whole social life through the educated persons. It also generates one specific type of social-economic behaviour. The positive characteristics (diligence, organizational capacity, etc.) and the negative ones (laziness, truancy, theft, etc.) are based on the type of educational process developed by the society. The social learning brings its effective contribution to the promotion of economic and social mentalities, brings together the individuals within collectives, makes up collective processing capacities, and guides the economic and social development of the country. Thus, the quality of the economic and social environment is improved and directed towards the welfare of the individual and the victory in the competition with other countries.

3. *The cultural function.* The inclusion of the person in the society is not reduced to his/her participation to the economic and social life. The human needs outrun the biological simple necessities, because the human person requires both natural nourishment for satisfying the biologic needs, and spiritual (cultural). The education satisfies such human demand through the spiritual content produced and collected by the predecessors. Thus, the society achieves one of the most important components of its ascending

replication (recent sociological investigations revealed that only 25% of the secondary school students use to read during their spare time). The spiritual level capacity of a people is found in the educational active power. What happens today in Romania is the illustrative expression of our educative potential. Leaving aside the education resulted in certain gaps in the Romanian spirituality (many of them cannot be recovered). Denying our spiritual heritage (all or parts of it), excessively guiding the education towards the practical aspects of life, etc. are some of the natural results of the failure of fulfilling the cultural function of education. Through education the child assimilates the inter-human language and communication and learns living in the aggregate he belongs to. As a matter of fact, the culture represents a set of socially accepted values, spiritual and material achievements.

Each historical stage and human group includes specific systems of values that creates the background of the specific group and makes the difference from other contemporary groups. Through education the system of values is conveyed from one generation to another and developed within each one of them. As result, the society understands its own identity and contributes to the universal heritage. In order to maintain such values each society has created certain organisations meant to promote it through education.

The school, the army, the political parties, the mass media, etc. are such contemporary organisations that offer the people a number of values that strengthens the group identity. As soon as the education separates from the cultural function the spiritual identity of the human group is jeopardized and can be “sold” or “purchased” by any interested person. The values are social binders that bring effective contributions to achieving the identity of the ethnic and/or national group, opinions, attitudes, and relatively unitary collective aspirations.

The education should not give up its cultural function because in case of failure is should give up as well to all other functions still active at present.

4. *The function of contribution to the replication of the social life.* The education sociology built on the paradigm of critical theory takes into consideration the conflicts and malfunctions of the society, including the education as playing major role. The society is not a robot that functions faultlessly. The malfunctions and conflicts characterize the society and are agents of the social transformation. In this context of the social development the education can only be considered a tool for preserving the social life from mechanical point of view. In reality, the education takes part in the ever-changing societies together with other agents and brings its contribution to maintaining or changing the society as a whole. Sometimes the role of education is critical.

Thus, the education is one of the pillars that support the permanent maintenance and reproduction of the social life.

The society is the product of the individuals that belong to it. This formulation is simple but not simplistic and suggests the complexity of the social life, which cannot be understood whether the individuals are not taken into consideration. The education only fulfils the social purposes having impacts onto each individual as result of his/her explicit intentions.

As regards the individual the following functions are obvious:

didactic relations favorable to the complex educational communication, the subject of education – knowledge creator and owner of a way of thinking.

Moreover, the substantiations, the analysis, the comments and the examples offered within this work are subordinated to the scientific socio-constructivist and interactive paradigm, the reader being given proper and viable didactic solutions, adapted to the specific of the teaching-learning-assessing forming process in the pedagogic disciplines.

We applaud the appearance of such a work, very necessary and long waited for, work that belongs to the field of didactics of the pedagogic disciplines, treating in modern didactic manners topics specific to the field it belongs to, reevaluating the results of some efforts of gathering documentary evidence, of reflection, of conception, of synthesizing and prospecting the specific field of concerns.

Durkheim: “Briefly – mentioned the French sociologist – the education, far from having as sole or main object the individual and his interest, is above all the means used by the society to permanently renew the condition of its existence. Thus, the society can only be alive if there is enough homogeneousness amongst its members. The education is the one that perpetuates and strengthens this homogeneousness emphasizing the essential similarities assumed by the collective life (...). We can say that in each one of us there are two individuals. Though they can only be mentally separated, they are distinct. One consists in all spiritual living related exclusively to our personal life events and us. This is what could be called “individual human”. The other is a system of ideas, feelings and habits that do not express our personality, but the group or the different groups we belong to, e.g. religious beliefs, moral practices, national or professional traditions, all kind of collective opinions. Altogether they make up the social being. The goal of education is shaping the individuals hidden in each one of us” (Durkheim, 1980, p. 68).

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THE DIDACTICS OF THE PEDAGOGIC DISCIPLINES A STRUCTURAL FRAMEWORK

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BOOK REVIEW

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In a period when the sciences of education are being reconsidered and restructured so that the conditions of existence and evolution of the educational phenomena and events could be studied as objectively and efficiently as possible, a work of didactics of the pedagogic disciplines is more than welcome. Paradoxically, in the Romanian and foreign literature there is no bibliography on this topic, although the didactics of the pedagogic disciplines has a special status within the sciences of education, as a discipline that significantly supports the epistemic development and maturation of other disciplines. But this status should be honoured with new meanings, interpretative regenerations, constructions and reconstructions, with problem raising, with critical-constructive approaches, with rebuildings of the epistemologic structure etc., all these in the service of raising the theoretical and practice epistemologic dignity of the discipline and implicitly of pedagogy.

Trying to reevaluate as an advantage the state of things recorded in the specialized literature related to this topic, the author established a system of values – as a means of getting to certain values – goal relevant to the raised topic. It is obvious that the author's aim is to elaborate a dense operational working instrument (the work has eight chapters and 428 pages) that should be for the reader a constructive challenge of organizing and reorganizing, of building and rebuilding the learning, knowing and forming experience.

The book is designed in accordance with an internal gradual logics that is perfectly moulded on the essential disciplines of the scheme of the sciences of education: the foundations of pedagogy, the theory and methodology of curriculum, the theory and methodology of instruction and the theory and methodology of evaluation. The eight chapters lead the reader from the general problems of pedagogy and of sciences of education to the personalized and shaded problems, specific to the didactics of the pedagogic disciplines. Thus, the first chapter proposes an elegant transition from the macro and micro-pedagogy to the didactics of the pedagogic disciplines within the system of the

sciences of education, in a modern fundamental manner, with systematic argumentations of its epistemological status.

Revaluating modern views of an item with special educational relevance – the curriculum, the second chapter treats this issue for the pedagogic disciplines, also offering the results of a practical investigation realized among the teaching staff and among the pupils, investigation that offers interesting and useful results, including the leading persons in the educational field.

The next chapters are focused on the specific problems of the main constituent parts of the curriculum, emphasized on the field of the pedagogic disciplines: educational finalities (chapter III), instructive-educative contents (chapter IV), didactic strategies (chapter V) and assessment strategies (chapter VI). The type of discourse is reflexive and interrogative, both in the theoretic, conceptual approaches and in the action, pragmatic ones. Thus, the chances for the work to generate active, interactive and critical acceptance are increased. The author's preference for the didactic illustrative, applicative perspective, for exemplifying and methodical analysis, for methodical significant and profound details and also for offering operational working instruments, tasks and applicative exercises is obvious in these chapters as well as in the whole paper.

The theoretic considerations circumscribed to the chapters and subchapters that belong to the work are synthesized, illustrated and questioned so that the work may be useful to teachers of different specialties interested in the issue of the contemporary didactics which they can personalize for their own discipline. Due to this methodological option, the author manages to offer a functional curricular auxiliary within the subsystems of the initial and in-service training of the teaching staff and also in their steps of self-perfection, replying to some real professional needs of information and documentation, taking into account that the specialized literature in this field of the didactics of the pedagogic disciplines is showing a deficit. To exemplify we name some aspects approached in a scientific modern manner, circumscribed to a scientific socio-constructivist and interactive paradigm: formative and informative valences of the contents specific to the pedagogic disciplines, didactic transposition, concept introduction and assimilation, specific difficulties and errors, teachers' competencies from the perspective of the management of the contents, didactic methodology, formative assessment, self-evaluation etc.

The seventh chapter, dedicated to educational design in the study of the pedagogic disciplines offers a large scale of working, the general structure of which is presented and, in the same time, concrete, telling examples are given: schedules, projects of the learning units, lesson plans which support the everyday teaching practice.

The epistemic step ends with a chapter where the author aims to configure the most important strength lines that characterize the epistemological socio-constructivist and interactive paradigm and the formulation of some proper pedagogic corollary. In the author's vision, these strength lines are the following: the pedagogic research – strategic resource in the educational process, the reevaluation of the systemic approach, making more active the subjects of education – important didactic source and resource, establishing

DYNAMICALLY DIDACTIC METHODOLOGIES – THEORY AND PRACTICE

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-Book Review-

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The “*Metodologii didactice activizante – teorie și practică*” work (*Dynamically didactic methodologies – theory and practice*), written by Conf. Dr. Maria Eliza Dulamă, a constant, and at the same time innovating presence in the didactic domain, is once again surprising the main methodological aspects, offering a full argumentative material.

In the first chapter – “*The form – a learning environment*” (pp. 11-34), the author introduces us in the pupil’s learning environment, which is wanted to be a proper location for their cultivation, inhibition and compulsion free. The study process can be done either frontal, in groups or individual, the main incitement being small group disposal. Questions regarding the study breakdown, advantages or disadvantages that must be considered, group’s size, pupil’s grouping techniques, monitoring the study process, ways of presenting the materials which will be received by the pupils, and the manners of presenting and evaluating the results, by the pupil – from one side, and by the teacher – from the other side, are cleared, by presenting some applicative methods, through out the entire chapter.

“*Lesson’s structuring methods*” (pp. 35-91) is the second chapter of this work, and points the strategies of organizing a lesson, by implementing some interactive examples (traditional, “I know - I want to know – I’ve learned”, direct and explicitly learning etc.), which have the purpose of creating a professing, absorbing and knowledge collation environment, much more attractive for the students, avoiding the classic stamp by stimulating the student’s creativity.

Proposing to optimize student’s past knowledge’s evocation, the 3rd chapter – “*Ways of evocating and motivating*” (pp. 92-104) – is interposing to several courses which are imposing by brainstorming activities, collaborations, verbal and written communication, such as: Think-Pair-Square, One-Minute Paper, Simultaneous Roundtable, Round robin, Inside-Outside Circle, free writing, graffiti, Idea-Tree, categorizations, etc.

CURRICULUM THEORY – CONCEPTUAL AND METHODOLOGICAL ELEMENTS

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-Book Review-

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As the title suggests, the very recently edited volume *Curriculum Theory – Conceptual and Methodological Elements* is intended to offer a comprehensive and compact analysis of the relatively newly introduced pedagogical concept – curriculum – and of the complex processes of curriculum design and development. The author of the present book, professor Mușata Bocoș, a well known theoretician of the curriculum issues and its diverse applications, has produced a highly informative and reflexive support that will be a very welcome resource for a range of people, both for its deep analyses of the curriculum facts and prospective evolutions as well as for its reflection and application insertions existing at the end of each chapter.

The very fact that the author opted for seconding the theoretical discourse of each of the seven chapters of the book with a set of reflection and application exercises not only makes the volume a very helpful support for curriculum teachers and future teachers students, but reflects the strong believe of the author that the curriculum is a living construct that overpasses the formal limits of the curricular documents and structures or develops itself while being delivered in the very concrete context of the classroom. Consequently, it is argued that the curriculum must always be analyzed in context, being dependent on its various conceptual representations and meanings, on the cultural and general educational factors and values. A wide range of these factors are considered in Chapter 1, where curriculum is seen in the historical context, and it is defined from the perspective of relevant etymologic meanings, but also through analyzing the dimensions, hypostasis and approaches that drive its practical configuration: the curricular vision and structure dimensions, the conceptual, documents bounded and action bases hypostases of the curriculum. By approaching a variety of curriculum defining and specifying starting points and perspectives, the book offers a lively and vibrant text that reveals the complexity of the curriculum as a highly explanatory concept and as a practical approach.

As one of the operational perspectives on curriculum sees it as an articulated system of the educational programme components, Chapters 2 and 3 select the main elements out of the curricular system of components – educational aims and contents – and discuss their relevance in the curricular approach of the educational programmes. Arguing that the curricular perspective on formal education is not just a conceptual change but a change of educational paradigm, the author presents the aims of education as starting points of defining the curriculum programme. Goals and aims of education formulated in terms of competences that must be trained in students represent, in the view of the author, the driving force of curriculum design and development process. Similarly, the educational content is pertinently viewed as vectors of the curriculum and mediators for curricular aims accomplishment. Out of the very few books existing in the Romanian literature on the issue of curriculum theory and methodology, this is singular in supporting the idea of aims and contents as driving forces and mediators in the creation and development of the curricular programme.

The practical issues of curriculum design and structure are approached in the following chapters, dedicated to description of the curriculum structure, design and products as well as to identification of solutions for controversial issues related to the just mentioned topics. Innovative practical tips, organizational models, examples and suggestions are thus given to problems like the practical approach of the school decision curriculum (e.g. pages 168 to 182), application of the curricular paradigm in creation of the alternative school books as well as in developing each learning situation (e.g. page 122), development of competence based learning experiences (e.g. page 124), effective use of alternative school-books (e.g. page pages 182 to 189).

Specific and controversial issues are also discussed in the context: the status of contents in the curricular approach to teaching and learning, responsibilities of different educational actors in the design, implementation and evaluation of the curriculum, direct and concrete implication of curriculum design principles.

The excellent reflection and knowledge application exercises included at the end of each of these chapters make the book a valuable instrument of students' and teachers' self directed learning. They range from studying the practical implications of different structures and types of curriculum, to quotation texts analyses, case studies, communication with teaching practitioners, design of curricular documents, comparative and critical analyses, functional solutions identification.

A very interesting reading is made by the final chapter of the book, dedicated to the Romanian curricular reform, which discusses the principles and approaches undertaken during the curriculum reform period, and integrates the results of a variety of diagnosis studies existing in the pedagogical literature for presenting the impact of the reform measures for the actual decade curricular reality.

The clear style and presentation make the text accessible and offers a pleasant reading. The author has ensured a format and layout which is particularly user-friendly, through the objectives and competences targeted by each chapter, the frequent graphical

representations, the numerous synthesis in form of classifications and enumerations, the unique applications and exercises marked with specific icons in order to be easily differentiated, and the structure of the references and bibliography list that integrates selected as well as recommended titles.

The book may easily be considered a generative matrix for reflections, theoretical deductions and transfer into practice of valuable curricular ideas. Professor Mușata Bocoș succeeds to connect the reader to the contemporary European and world pedagogical discourse regarding the curriculum phenomenon, without ignoring at all the national educational context. Thus, the book will be useful as a reference document long after its initial reading.

From chapters 4 to 9 there are detailed the methods of structuring a geography lesson, from landing the systematization of some written ideas (in chapter "*Individual Study Methods and Compilations*" – pp. 105-153), learning through collaboration (as is shown in chapter "*Collaboration Study Methods*" – pp. 154-199), demonstrative sustaining of opinions (chapter "*Argumentation-based Methodologies*" – pp. 200-215), and until developing a formative character, through discussions (chapter "*Discussions-based Methodologies*" – pp. 216-256), by giving some solutions (chapter "*Methodologies of dealing with Problem Situations*" – pp. 257-275), or by manifesting some opinions and attitudes (chapter "*Investigation-based Methodologies*" – pp. 276-310).

The possibilities of drawing the knowledge, especially by the way that students auto-organize themselves, is the 10th chapter's objective, "*Techniques of graphically organizing the information*" (pp. 311-356). The analysis moments, necessary in every cognitive step, can be used equally during lessons or at home, the chapter "*Contemplation techniques*" (pp. 357-373) illustrating, substantially, some of the contemplation modalities. Invested as a didactic character, the anecdotic angles can and represent a pleasant way of learning, the didactical games closing, through this approach the series of didactical methodologies (approached in chapter "*Game-based Methodologies*" – pp. 374-390).

The appearance of this work in the specialty literature must be saluted because of its exemplifications, which surprise, in a new approach the lesson's monitoring, but also becomes a useful instrument to all those who's practicing, and a "basement hale" in building the Romanian didactics.

PHYSICAL GEOGRAPHY
PLANIFICĂRI ȘI PROIECTE DE LECȚII PENTRU CLASA A V-A

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-Book Review-

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The methodology of teaching geography in secondary school as well as in high school embodies a complex process of education, information and accumulation of a multitude of physical processes, phenomena and realities. These are mainly things that the teaching staff has to convey to the children, and are essential in the double process of teaching-learning. At the same time, teachers have to responsibly try to long term impress the pupils with the information given during the classes, as well as to make the geographical specific concepts and definitions as clear and precise as possible.

This scientific paper entitled "Geografie Fizică. Planificări și proiecte de lecții pentru clasa a V-a" is a multifaceted didactic model, elaborated in accordance with the structure of the curricula, and with all the alternative manuals in circulation. We can notice how five learning units unitary complement each other in the general physical geography as a whole, basically illustrated through comprehensive lesson plans comprised in each unit.

The methodological research is structured on six parts, the first representing the synthesis of the main subjects discussed and taught in class and it points out the five large themes that are: "The Earth as a Planet", "The Relief", "The Atmosphere", "The Hydrosphere", and "The Biosphere".

The planning of learning units synthetically underlines the content of each geography lesson, the suggested reference objectives, the learning situations, the procedures and the material resources to be used in teaching lessons, as well as the type and the instruments of examination to be applied at the end of each learning unit.

The remaining five parts each put together five lesson plans meticulously describing the main subjects analysed in the units, as specified in the first part of the paper. Basically, the lesson plan represents the main component of this didactic compendium of general physical geography.

The structure of each lesson plan follows the classical order or, better said, the logical order of steps any teacher goes through during a class. For that reason, we have to emphasize the specific key steps particularized in most of the lesson plans, such as: subject, motivation, reference and operational objectives, used or suggested, the previous baggage of knowledge that pupils are expected to have, the procedures and the material resources. The author emphasises upon the most frequently used procedures and material resources out of the large range of those mentioned, for instance: the heuristic conversation, the observation, the tree of ideas, the analysis of photographs and sketches, the map analysis, orientation exercises and identification of elements on the Earth Globe and on the map activities, the explanation, the demonstration, the cluster and the experiment; modelling, drawing on the blackboard and creating a poster.

Each of the lesson plans ends with a self-examination section, made out of questions. An extremely factor to be considered, and we emphasise upon it, are the practical applications that each lesson doesn't lack in and which helps to ground the theoretical information.

Overall, the diverse methodology as well as the blending of both theoretical and practical scientific notions and elements throughout the paper proves a rich scientific and didactic activity of the author whose results become visible in a constant progress. The multitude of sketches, explanatory figures, thematic games and experiments determine a new approach of geography science in a practical manner, based on theoretical notions substantially exemplified, trying to engage pupils in practical activities, thematic exercises and games as much as possible, thus contributing to the teaching process.

The paper "Geografie Fizică. Planificări și proiecte de lecții pentru clasa a V-a" proposes and manages to create and describe the optimum methods for teaching geography in secondary school. The complexity of the geographical phenomena transposed in an enjoyable manner, so as to help the pupils understand, is, at the same time, full of scientific content. This must be one of the reasons it represents a didactic tool, worth using. It definitely proposes development and innovation as the main definite trends in geographical education.

I kindly recommend using this book as a helpful work tool for the teaching staff, involved in the 5th grade general geography education.